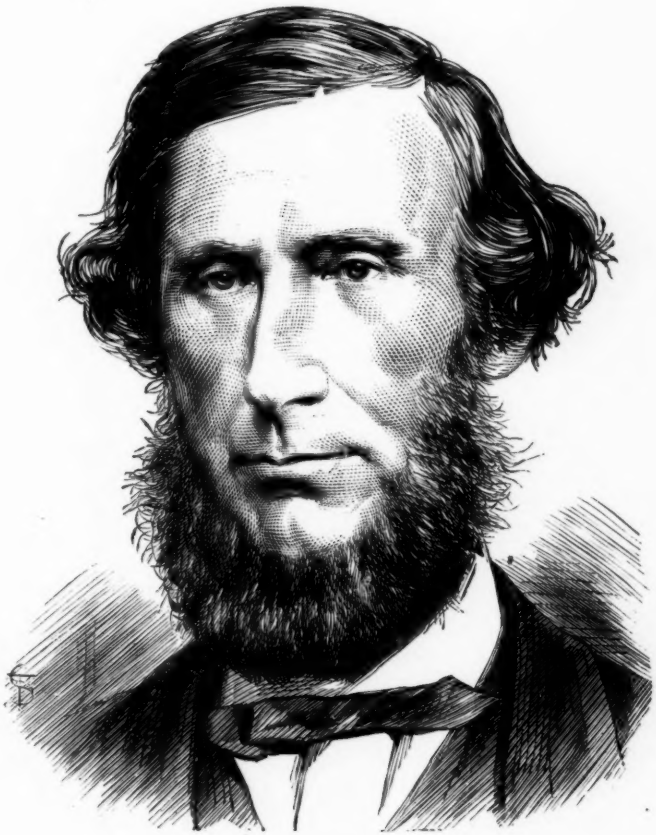
THE

PHRENOLOGICAL JOURNAL

AND

SCIENCE OF HEALTH.

VOL 97. NO. 1.] JANUARY, 1894. [WHOLE NO. 661.



PROFESSOR JOHN TYNDALL.

COPYRIGHT 1893, BY FOWLER & WELLS CO.

PROFESSOR JOHN TYNDALL.

By Edgar C. Beall, M.D.

IT is a principle in phrenological character reading, that the direction or particular channel in which the mental faculties will be manifested, must be determined chiefly by the temperament and organic quality. This statement should suffice to remove the objection so often urged by those who are unfamiliar with the literature of phrenology, viz., that different heads of the same configuration are found in connection with widely diverse talents and dispositions.

It should be remembered that the primary mental powers, while related to specific lines of expression, are by no means limited to individual objects. A knife may always remain a knife, whether used to cut the pages of a magazine, to perform an autopsy, or sharpen a pencil. In like manner, a mental faculty is always fundamentally the same, though exercised upon a number of different materials or separate objects upon its special line of activity. Eventuality, for example, always takes cognizance of that which is expressed by the verb, and in one man it will be interested in the campaigns of Napoleon, or the expeditions of Stanley, while in another, the same grade of development would find its chief gratification perhaps in the narration of personal adventures, or in reading novels which deal in exciting events. In all cases it is concerned with action.

Now if Constructiveness and the perceptives are large in a healthy brain, there will always be talent for mechanism. If the temperament is emotional, the mechanical expression will be artistic. If the constitution is cool, with ordinary quality, the manifestation may be confined to simple construction upon the physical plane; and if to the coolness of the temperament there is added excellent quality and a high intellectual culture, we have the combination most favorable to the scientist. This was well illustrated by the eminent English scholar who is the subject of these remarks.

Prof. Tyndall bore the stamp of a superior organization. He was an example of that phase of high quality which means loftiness of purpose and purity of soul, rather than mere exquisiteness of sentiment or refinement of taste. There was an earnestness and magnanimity of character suggested in the features which scarcely any person could mistake. The temperament was the mental-motive. This signifies that his mind was attracted first to that which is essentially intellectual, and secondly to those studies or avocations which relate especially to the practical, the positive, the tangible and the demonstrable. As the basis of the motive constitution is bone, so the intellect in this temperament is satisfied only with a foundation of fact. Such a man is impregnable in the fortress of reason. No alluring phantasm woven of imagination's subtile thread can turn him from the rocky path of the knowable or the known. And still he does not presume to define that which is beyond his ken. He understands the limits of his knowledge, and one of the first results of his logic is a demonstration of his inability to fathom the secret of the absolute. He will not readily believe a mere tradition, and yet his refusal to accept a theory or a hypothesis, is not an assertion of superior enlightenment, but rather, to use Prof. Tyndall's own words upon this subject, "a protest against the assumption of knowledge which must long, if not forever, lie beyond us, and the claim to which is the source of manifold confusion upon earth."

There are some egotistic, dogmatic and conceited scientists, as well as hare-brained poets, and fanatical philosophers. But the model man of science is above all else temperate and judicial. He must gauge, weigh and measure, not only the walls which enclose his fellows, but also the manacles which bind his own hands and feet. It was thus with the great investigator and teacher whose portrait is before us, and whose contributions have made epochs in the history of scientific thought.

He was a remarkably clear thinker, and hence a lucid writer. His literary style, which has been so often complimented, was largely influenced also by his honesty and devotion to truth. In this respect, and in many other ways, he resembled Abraham Lincoln, who might also have become distinguished as a scientist if he had received the necessary training in his early life.

Prof. Tyndall was physically characterized by length, sharpness, and compactness, rather than breadth of form or porosity of fibre. His mind was also penetrating, keen, and inclined to specific detail and mathematical precision, rather than phi osophical generalizations or poetic elas·icity of conceptio·. His head was well balanced, and his mind was firmly poised. The brain in the superior and frontal regions greatly predominated over the basilar portions related to the selfish appetites, and the organization as a whole was a long way removed from the animal type.

As to social qualities, there was more desire for intellectual and moral sympathy than merely personal comradeship; more loyalty and constancy of affection than ardor of manifestation, and a popularity due to recognized integrity of character rather than to his observance of conventionalities. Cautiousness was a conspicuous element. This is shown in the portrait by the width of the upper back head, also by the length of the middle third of the face. There was no tinge of rashness or immature judgment in his procedures. The indications of large Conscientiousness are unmistakable, both in the form of the brain and in the angularity of the face. Directness, and a sense of law, method and rule are expressed in the clearly defined features, and the moral impulses received an added value from the absence of all voluptuousness or frivolous inclination.

While the forehead was broad in the temporal region, at Constructiveness, it is not likely that the diameter at Acquisitiveness was equally great, for the temperamental signs are all opposed to the hoarding instinct. Such a length of nose and neck are very rarely, if ever, associated with commercial sagacity. But there are evidences of prudence, self-reliance, dignity, moral aspiration, decision, steadfastness, thoroughness, and a degree of discipline in the whole mental life, the equal of which it would perhaps be difficult to find. An illustration of the man's generosity may be seen in the fact that he donated the entire proceeds of his thirty-five lectures in this country in 1872, to a scholarship fund, the income of which is given to scientific students of various American universities to further their studies in Europe.

Of Prof. Tyndall's intellectual capacities, only the best can be said. He may not have carried his deductions as far into the abstract as some other men have done, but within the sphere of his special labors he was reliable and accurate. His perceptive faculties predominated, but still he was not insensible to the problems of metaphysics, religion, and esthetics. He was pre-eminently adapted to the acquisition and application of knowledge pertaining to the material world. As a chemist and geometrician he had few superiors; and though not verbose as a speaker or writer, he was exceedingly discriminating in the use of words.

Prof. Tyndall received the degree of LL.D. from Cambridge in 1855 and

from Edinburgh in 1866, and that of D.C.L. from Oxford in 1873. In 1876 he married Louisa Charlotte, eldest daughter of Lord and Lady Claud Hamilton.

The father of the great physicist was also named John Tyndall, and was descended from William Tyndale, the martyred religious reformer, and translator of the Bible, who was burned at the stake in 1536. The family were from Gloucestershire, but about the middle of the eighteenth century some of them emigrated from England to Ireland, where Prof. Tyndall was born in the village of Leighlin Bridge, near Carlow, August 21, 1820. The accompanying portrait represents him in his prime, and we prefer it as an aid in studying his character to the more recent likenesses.

The writings of Prof. Tyndall include many important volumes, but he is chiefly known for his investigations of diamagnetic polarity, and the molecular constitution of matter. His studies on radiant heat begun in 1859, culminated in the publication in 1863, of his famous book entitled "Heat as a Mode of Motion." His death, which occurred on the night of Dec. 4, 1893, will cause profound regret in the scientific circles of every country and among all lovers of truth.

SPIRIT OF THE ANGLO-SAXONS.

By George Bancroft Griffith.

IN a country like ours, untrammeled by the distinctions of royalty, where no undue regard is paid to birthright, where titles are conferred or withheld at the pleasure of the people, where honor and respectability are made equally accessible to all, and where every man is called upon to act for himself, no peculiarity is more striking, no effect more beneficial, than that course of independent action which has consequently been generated. We are of the race perhaps the most distinguished that ever existed. From its origin to the present time it has been noted for activity and bravery. Its early character may be seen at a glance in their reply to Alexander. When asked what they most feared, they said: "We fear nothing save that the heavens fall on us and destroy us."

With the Anglo-Saxon race has originated nearly all those noble conceptions—by them have been accomplished nearly all those splendid achievements—which have resulted so signally in blessing mankind. Although a distinct race, and possessing characteristics peculiar only to itself, there is notwithstanding a great variety in its descendants. England is indeed mighty; she proudly boasts as mistress of the seas; the thunder of her arms is heard from East to West and from North to South. The sun in his course never ceases to shine on some part of her domain; yet with all her power both civil and military—though she may have extended her sway over a great part of the world, trampling on the nations of the East, she is not invincible. The sturdy son of New England has borne off the palm; has humbled her pride; he has plucked from her coronet its most glittering gem, and she acknowledges in him elements of superiority which she will acknowledge in no other nation.

The American, although of Saxon origin, and although he owes his parentage to Britain, would seem to belong to another and distinct class. His manners, his habits, his very nature are unlike those of any other. To him was assigned by Providence a task of extreme difficulty; by him was accomplished an object never before thought practicable. By him a new world was to be created. He was to convert the forest into a fruitful

field. He was to sever by a single stroke those tyrannical chains which might have fallen fast about him, and the still stronger ties that bound him to his mother country. He was to erect by the might of his own right hand an empire more powerful than any other on the face of the globe. Our forefathers, when driven from their homes in England, found at first a peaceful abode in Holland. There they remained twelve years. There, on the fertile plains or in the great cities of Holland they might have remained, and there almost every other race—people—*would* have remained. But to cross the stormy deep, to go to savage shores, to find a home for their posterity in a new world, to create a new empire, was an enterprise suited to their taste. The hazards they were to run, the very grandeur of the scheme, the difficulties they were to encounter, were the food for Saxon spirits. They undertook their task with an ardor equal to the enterprise. They crossed the ocean. The forests, once teeming with savages and wild beasts, have given place to populous cities and thriving villages, the home of the happy and the brave. They consider no bond so sacred that it should be preserved at the price of freedom, or, rather than receive anything like tyranny from the mother country they at once burst its bonds and the ties of relationship.

Difficult as may have been their task they committed one of no less consequence to their posterity. To establish a government on the inalienable rights of man was indeed a new thing under the sun. It was aiming a blow which might shake the foundations of the thrones of Europe, aye, of the world. For them to perpetuate it was to carry on war, in principle at least, with the rest of mankind. This they have done. And though we are comparatively a quiet people, the same independence of action, the same determination of purpose is grandly shown when occasion demands. The fire which burned in the breasts of our fathers is in ours. We need only to be placed in circumstances like theirs to see it glow with original fervor.

A NEW YEAR PSALM.

(From the Swedish.)

BY LYDIA M. MILLARD.

The years roll unresting
  Down Time's rapid stream,
A bubble fast fading,
  Our day's brightest dream.
We follow unfearing,
  The onrushing hours,
With Time's billows nearing
  Eternity's shores.

Thou All-Great Eternal,
  Thy throne rests secure;
High over Time's surges
  Its pillars endure;
No tempest or darkness,
  No rude, raging sea
Can break the chain binding
  Thy creatures to Thee.

Our dear ones have left us,
  But Thou dost remain;
Thy love hath bereft us,
  We welcome the pain.
Thy strength crowns our weakness,
  Thy light cheers the gloom.
The grave's deepest darkness
  Thy smile doth illume.

We forward go, fearless,
  At Thy blest command,
Through dark waters cheerless,
  O'er storm-beaten strand.
While Thou our defender,
  Our leader shalt be;
Through death or through danger
  We triumph with Thee.

All-Great One Eternal,
  To Thee soars our song;
To Thee every purpose,
  Thought, feeling belong,
Before us, behind us,
  Around and above,
Like rainbows immortal
  O'er reaches Thy love.

OBSERVATIONS ON THE "ORGAN OF WEIGHT."

By Dr. J. L. Capen.

IS it reasonable to suppose that there can be any radical error about the location of a phrenological organ, which scores of phrenologists have marked for years with unquestioning confidence? Let us consider the nature of the evidence of certain organs, and the conditions affecting their functions.

It is not always easy to obtain demonstrative evidence of the function and location of any organ. The phrenologist does not remove the skull, or any section of it, and apply the battery to a portion of the brain to learn its function. That method adopted by the vivisectionists has resulted in proving certain centers of motion, but nothing more. The phrenologist has a much more laborious method and one that demands repeated examinations, and the exercise of much judgment, before he can make a good approximation to the function of any portion of the brain.

It need not therefore appear strange that successive classes of students, for a considerable length of time should take for granted much of what they have read and heard; and especially might this be the case concerning some of those organs that may be considered of minor influence over the character.

As the brain tends to act as a whole, so far as possible, no one organ can be easily isolated and studied alone; hence the skill of the practical phrenologist depends very largely upon his judgment in combining the influences of the different organs, the temperament, and the quality of the brain.

Some of the organs are more greatly affected by the state of the health, the physical development, and temperament, than are others. Thus Alimentiveness may be morbidly active in certain forms of dyspepsia and comparatively inactive in a well-balanced temperament in good health, except periodically as the system demands nourishment. The practical phrenologist in describing the function will pay quite as much attention to these general conditions as to the brain development. A similar rule applies to amativeness. The full-fleshed, red-faced man, and the delicate, healthy man of thoughtful, industrious temperament, are influenced by it in a very different manner, and in different degrees. From this we might well expect that if there were an organ of "Weight" in the anterior lobe, or elsewhere, it would be greatly influenced by the development of the muscular system, and it might be affected to such an extent as to make it comparatively difficult to decide the degree of influence due to each—to the muscular development and its concomitants and to the brain.

It is generally understood by anthropologists that a prominent bony ridge over the orbits indicates a muscular race. What is true of a race must be true of numerous individual instances. We can, however, find many men of superior muscular development and of talent and skill like that attributed to Weight who are not particularly prominent at the superciliary ridge. Observations of this nature led me to doubt whether the "organ of Weight" is represented by any fullness in that region.

There is, I think, some difficulty in ascertaining the size of the individual organs situated behind the frontal sinus, although very little in determining the development of the perceptive group as a whole, when we note the trend of the cranium above the sinus.

The experiments of the physiolo-

gists seem to show that there is a very intimate connection between the cerebellum and muscular movements. They do not hesitate to call its function that of "co-ordination of motion," and I have found but one author to challenge their assertion. It is well known to all of us who have been so fortunate as to witness the barbarous experiment of amputating the cerebellum of the fowl, that, at least for the time being, the power to stand, to walk, or to fly is lost, and the wounded, frightened bird flutters, struggles and falls from the table unable to help itself. If the question had come to a phrenologist with an unprejudiced mind as to the seat of an organ which should give one a judgment of weight, skill in self-poise in dangerous places, sympathy with muscular energy, and the use of power, in fact such functions as are attributed to the organ of Weight, if the question had come after having witnessed what we have described, is it not likely that he would have turned his attention to the cerebellum? It is my opinion that that close observer, independent thinker, and frank, honest scientist, Dr. Spurzheim, would have done so.

We have seen that in general the superciliary ridge is most prominent in muscular men. The cerebellum is also large in such men, and it is probable that in a large majority of cases the situation of "Weight" will appear to be verified because of this coincidence; but if a single case of deficiency in the sign with a decided proficiency of the function can be found, it will go further to disprove the location than any number of such coincidences will go for its confirmation.

I think I have known several such cases. I knew a lad who was particularly given to climbing, walking on narrow edges of fences, et cetera, who had but a moderate development of the supposed organ of Weight. Forty years ago I was acquainted with a young carpenter of extraordinary skill and courage in a direction to imply a large development of Weight. He was in the habit of running down ladders from the plates and roof of a church on which he was at work without making any use of his hands as a guide. In crossing fields he would leap the fences—never climb over them—yet he never appeared to have any ambition to be thought an acrobat. This young man had a phrenological chart marked by an expert, and "Weight" was only *four* in the scale of seven. To me it appeared to be a correct marking for the conformation of his head, though it failed to represent the muscular skill which he exhibited. I recollect a schoolmate and near neighbor who exhibited some of the characteristics attributed to the organ of Weight, and to a remarkable degree. It is impossible for me to say that there was no unusual development of Weight. Indeed, it is my impression that the eyebrows were quite prominent and the forehead retreating, but I happened to know that the "bilious temperament" had been marked quite strong by a phrenologist, and I know that the muscular apparatus was conspicuous. This lad was notorious for his skill and courage in snowballing sport. It happened not infrequently that he would be on one side and all the rest of the players of the school on the other. At such times he would be as cool as ever, make his balls as firm and round as possible, dodging a score of balls that might hit him, and, when ready, he would take deliberate aim at some conspicuous player, and almost certainly hit him, and hit hard. If there was no snow, it would suit him quite as well to make use of stones.

If we suppose as I do, that the functions attributed to an organ called Weight have their seat in some portion of the nervous system which is most directly connected with muscular coördination, and that there is a harmony between the development of the *muscles* and of the *motor nerves*,

then we have in the *degree of muscular development* one of indication of the functions attributed to Weight. It indicates "sympathy with power," and probably "skill and dexterity."

Some phrenologists seek for a single sign for each faculty, but others do not so much incline to a sharp division as to more extensive combinations. I think that it will be found that every healthy man with a good muscular development, a wide cerebellum, and a head high in the crown, has muscular skill together with all the functions attributed to Weight. As the cerebellum of a man weighs, on an average, a little over five ounces, and the cerebrum not quite forty-five ounces, and, since the phrenologists have attributed about forty organs to the latter, independently of the numerous centers of motion of the physiologists, it need not cause surprise if, to the cerebellum, should be attributed, in addition to Amativeness, at least two other functions, *co-ördination of motion* and the functions of the *sympathetic system*. And then, if we name one of these organs Weight and the other Vitativeness, we have one full complement of three organs, Amativeness, Vitativeness and Weight.

In this case, we shall not consider any of them organs of "ideation," but purely physical powers, regulating the instinctive action of the nervous system, though connected with the cerebrum, in which there may be an "ideational" organ, as in the case of Conjugality related to Amativeness, Distinctiveness to Weight, and Alimentiveness to Vitativeness.

ARRANGEMENT OF THE PHRENOLOGICAL ORGANS.

THE qualities and the faculties which are common to man and the other animals have their seat in those cerebral parts which are equally common to man and brutes. Whenever, then, we are speaking of a quality or faculty common to beasts and man, we should seek its organ in the inferior posterior, the posterior inferior, or the anterior inferior parts of the brain. Of this number, for example, are the instinct of propagation, the love of offspring, the instinct of self-defence, that of providing food, the instinct of cunning, etc.

The qualities or faculties which man exclusively enjoys, and which form the barrier by which he is separated from the brute, have their seat in those cerebral parts which are wanting in animals, and we must consequently seek them in the anterior superior, and the superior anterior parts of the forehead. Of this number, for example, are comparative sagacity, the metaphysical disposition, or causality, wit, the talent for poetry, the disposition to religious sentiments and ideas.

The more indispensable the qualities and faculties may be, the more do we find their organs placed near the base of the brain, or toward the median line. The first and the most indispensable of all the organs, that of the instinct of propagation, is placed nearest the base; then comes that of the love of offspring, etc. The organ of the sense of localities is more indispensable than that of the sense of tones, or that of numbers; and hence the last two are placed farther from the median line than the first. Then, the more a quality or a faculty is essential, the more it is necessary to seek its organ near the base of the brain, or the median line. The organs that are less indispensable are placed toward the top and sides of the head. If I wished to discover the organ of the talent for poetry, I should not, according to this principle, look for it either at the base or near the median line of the brain. * * * * Every one must be struck with the profound wisdom, which is manifested in the arrangement and successive order of the organs. *Gall*

HOW TO STUDY STRANGERS

BY

TEMPERAMENT, FACE AND HEAD.

By Nelson Sizer.

CHAPTER XII.

QUALITY OR PERFECTION OF TEMPERAMENT.

IN the study of temperament the student needs to keep in mind the highest order or best quality of temperament to serve as a measuring rule by which to test the variations and shortcomings of different persons in respect to organic constitution. One phase of temperament will be strong, while other phases are weak, and the result shows eccentricity, by strong and weak points in juxtaposition in the constitution. In regard to strong and weak points in the character there is no question by anybody, and we know that temperament varies quite as much as do the dispositions.

Balance of temperament is very desirable, yet this term carries to a Phrenologist two types of meaning; a temperament may be balanced, and still all its factors be weak, and therefore balance of temperament does not make a man with small head and low type of development amount to much, even if his temperament is balanced. A marble that boys play with may be perfectly round and nicely balanced, but an iron-clad ship would laugh at its efforts of penetration. A head may be medium and balanced in temperament, and each temperament low in the scale, and though all the faculties are balanced and harmonious, the man will be mediocre in his scope and power of achievement. The head may be large or very large, the health good and all the temperaments harmoniously balanced, and then it is that a normal king of men is before us. There are some men with large heads, as there are horses and men and chickens with large bodies; but there is not much snap and spirit and power in them. But a healthy constitution that is largely endowed in each of the departments of temperament will produce health and power, skill and success. And in proportion as these favorable conditions are present in a given individual, so will his talent and power of achievement be manifest. There are some men with splendid mental development; they are brilliant and far-reaching in the scope and elevation of their minds, but they lack in the vital and motive power, and, therefore, the mind is not backed up by vitality so that it can work strongly and long. A man with a twenty-four inch head and a predominance of the Mental Temperament, with a light frame and not very strong nutritive system, might be a splendid architect or accountant, or artist, and do magnificent work, but it would take him longer to accomplish a given amount on the same principle that it takes longer for a single gas-burner to boil a kettle than if there were a sufficient amount of flame to enwrap the kettle.

QUALITY.

Students of Phrenology are sometimes much puzzled in regard to the meaning which should be attached to the word "Quality" in connection with temperament or constitution. If we apply this thought of quality to material substances generally, it will cover more ground than mere fineness, and it means more than mere delicacy, softness and pliability. Quality is a generic rather than a specific

term. Softness is a specific term; hardness, toughness, endurance and strength are specific terms, and quality is the generic term and constitutes the embodiment of the whole of these. Timber may be fine-grained, but soft and weak. An article may have the quality of softness yet lack strength and power. When we combine all the conditions which go to make up the composition and substance of structures, and when we can put into anything all the elements which express desirable specific conditions, the sum-total is quality.

There is material as fine as that of which fiddle-strings are made, but it lacks strength, compactness, hardness and resonance. We can have bulk with coarseness, softness and flabbiness, and quality as applied to that would need the adjective low, coarse or soft to define it. Density in reference to material is one element of quality which embraces a large amount of matter in a given space; hence the timber called lignum vitæ will sink in water like a stone, while the least dense among the different kinds of timber will float like cork; and yet if cork were compressed to its smallest possible dimensions it might be as solid and heavy as lignum vitæ. Power is associated with the idea of density or compactness. Timber which grows compactly is strong, but timber which grows spongy and loose-grained is not strong. When, therefore, we can combine fineness with density and solidity we have a higher type of quality than when the material is soft and loose. If students of Temperament would apply some other term than quality by which to express the specific peculiarities, if they would say susceptibility, sensitiveness or excitability to define their meaning of certain conditions it would be more appropriate than the term quality; because as I use quality it means the total make-up, high or low, fine or coarse, strong or weak. We can have strength without coarseness and fineness without lightness, for the hardest woods when polished make the most brilliant surfaces and are most delicate to the touch, and the same is true with metals; so I conclude that the word Quality as applied to the comprehensive definition of the human constitution must embrace sensitiveness, nervous susceptibility, stalwart enduring power, sturdy strength, and also the elements of vitality and nutrition, by means of which all the conditions and qualities of temperament are nourished, sustained, builded and kept in healthy action. Sometimes the muscular power is ample in fiber but it lacks in the elements of nerve force to give it power, and at other times the nerve force is very much greater than the muscular power, and therefore the nerve stimulus is not supplemented and put into action and execution by adequate motive power; in such a case "the spirit is willing but the flesh is weak," and in the other case the flesh is strong but the spirit does not inspire it to effort.

HIGHEST POSSIBLE QUALITY.

If the reader can imagine a human being as tall and as large as a healthy, normal human being might profitably and properly be, with a strong development of every temperament, including enough of the Vital to generate all the steam which could be used to advantage, enough of the Motive temperament to give that vitality impetus in the sphere of achievement, and enough of brain to compass the whole realm of knowledge in as high a degree and wide an extent as ever has been done by special individuals, he would verily be in the presence of a son of God, a man or a woman in all the plentitude of skill and power and wisdom and health; and such a person would represent the possibilities of human organism, a grand human constitution, complete and ample in all its parts and factors, wise in the acquisition of knowledge, skillful and efficient in its treatment and use.

If such a person could be presented

having the logic of Bacon; the imagination of Shakespeare and Milton or Byron; the ambition of Cæsar; the intensity and prowess of Alexander; the inventive skill of Watt, of Ericsson or Edison; the eloquence of Cicero, of Burke or Beecher; the memory of Cervantes; the bravery of the leader at Balaklava, with the love of Pythias, with the art of Michael Angelo, with the sympathy of Howard, and the pious fervor and gentleness of Fenelon,—combine all these higher excellencies which have been developed in human experience, and add the vocal power of Jenny Lind or Patti, of Sims Reeves or Campanini, and we would have a personage which common people would worship, if they could, by any possibility, for one moment appreciate the amount of the elevation, excellence and power of the personage before them. Thus we get a dreamy appreciation of the possibilities of human organism. If all these high attributes could be concentrated in one person, we would then have the perfection of development, combining the highest strength, health and wisdom of manhood, the subject of our study and culture. And when one thinks of such a being, with such an origin and with such a destiny, he can be compared with nothing now on earth.

When the devout Psalmist was studying the objective realm of knowledge, and looked up into the glowing heavens, he was led to exclaim: "When I consider the heavens, the work of Thy fingers, the moon and the stars which Thou hast ordained, what is man that Thou art mindful of *him*, and the son of man that Thou *visitest* him." Then, turning his thought within, and taking a subjective view of life, and time, and worlds, and man, and lifting himself up in this higher study, his spiritual senses all aflame, he utters the reverential exclamation, "Thou hast made him a little lower than the angels, and hast crowned him with glory and honor!"

As such human perfection is not yet to be expected except as the result of ages of hereditary influences and culture, we present several portraits of persons of varying quality and temperament as subjects of study, and for that purpose we refer the reader to Chapter VII, where the study of "Temperament" is introduced, and also thenceforward to all portraits and discussions until we shall have completed what we may incorporate in "How to Study Strangers."

Fig. 116.—In this large, beautiful and massive head and face of Fitz-Greene Halleck is shown a modest son of genius, who had excellent gifts. In a line of business he spent many years of his life as an accountant in Jacob Barker's banking house in New York, and afterward as confidential assistant of John Jacob Astor in his enormous business, remaining with the latter until his death, which occurred March 29th, 1848.

He will be known to fame and to the future for his poetical works. In respect to Mr. Halleck, it was said by a witty critic that his greatest defect as a writer consisted in the fact that he wrote so little. He was born July 8, 1790, at Guilford, Ct., and after Mr. Astor's death resided at his native place and died there Nov. 17, 1867.

In addition to his business vocation he found time to do considerable literary work.

He wrote an elegy on the death of his gifted friend, J. Rodman Drake, which was published in 1820. It was simple, eloquent, pathetic and full of natural genius and tenderness, containing the oft quoted lines:

> "None knew thee but to love thee,
> None named thee but to praise."

Mr. Halleck is most widely known and admired for his poem, "Marco Bozarris." This has been made the subject of recitation in schools for the last sixty years; and, though, when well recited there is nothing that can surpass it, when it is read or recited by a stalwart young man without culture or training in elocution, and whose rough and earnest voice is

not yet settled in its manly tone, it loses all its beauty in the boisterous, torrent of force, for instance, in the noted lines:

He woke to hear his sentries shriek:
To arms! they come! they come!
The Greek! the Greek!

And the other famous lines:

"Strike—till the last armed foe expires," etc.

have often been read in such a shocking way that if the author could have heard such perpetrations he would have stopped his ears or fled before such blows.

This poem was popular, it stirred wonderfully the public pulse, and fiery youth rejoiced in the enthusiasm it awaked, and, although it is a war poem, nothing in that field has ever been written in the English language that is better, taken as a whole.

His Apostrophe to Death in this poem is a wonderful piece of work. What could be more pathetic and more vivid than this:

Come to the bridal chamber, Death!
Come to the mother when she feels,
For the first time, her first-born's breath:
Come when the blessed seals
That close the pestilence are broke,
And crowded cities wail its stroke:
Come in consumption's ghastly form,
The earthquake shock, the ocean's storm:
Come when the heart beats high and warm,
With banquet-song and dance, and wine,
And thou art terrible! the tear,
The groan, the knell, the pall, the bier,
And all we know, or dream, or fear,
Of agony, are thine.

But, to the hero, when his sword
Has won the battle for the free,
Thy voice sounds like a prophet's word,
And, in its hollow tones, are heard
The thanks of millions yet to be.
Bozarris! with the storied brave,
Greece nurtured, in her glory's time,
Rest thee, there is no prouder grave,
Even in her own proud clime.
We tell thy doom without a sigh:
For thou art Freedom's now, and Fame's,
One of the few, the immortal names,
That were not born to die.

In this fine head and face are seen the indications of a highly wrought mental temperament; and yet, there is a basis of the Motive. The strong features, the high head and the ample altitude of the person evince power, but the element or quality called fineness or sensitiveness would in him take the lead.

What a wonderful intellectual development this is:—how ample the expansion of the forehead, how broad the temples, especially the upper section where Ideality and Mirthfulness are located. He has been criticised for his wit and for the playfulness of his spirit, but "Marco Bozarris" has sobriety and sincerity enough. His large Benevolence gives width to the top of his head in front, and the poise of his head indicates large Self-esteem; but his was the Self-esteem that retired from noise and clamor, and led him to stand aloof from the common phases of rude life, and to have a few choice friends which he cultivated for their delicacy and refinement of manner and thought.

If he had had more than a common school education; if he had been early cultured in the best schools so that he could have been ushered into the literary world at an early age and thus been given by culture the direction of scholarly activity, instead of being for forty years confined to the use of ledgers and the study of pounds, shillings and pence, he would then, doubtless, have distinguished himself by a larger amount of intellectual and literary work.

W. Weidemeyer says: "He was a handsome man, with benign features, illumined by a pair of sparkling eyes, and with the beauty of intelligence stamped on his countenance; courtly manners, quiet observation, and habitual reticence were his outward characteristics.

"Treating our author's poems col-

lectively, we find their wording natural, precise, and copious; the phraseology exact, clear, and compact—smooth or forcible as the subject may require; the sentiment noble and aspiring, never misanthropic, mawkish, didactic, or metaphysical; the rhythm melodious with a clear and manly ring to it. Seldom do we encounter expletives, stilted expression, or bad metaphor, and similes he used sparingly."

FIG. 116. FITZ-GREENE HALLECK.

Halleck's temperament with high quality in the direction of the mental side of development gave him a marked position in the direction of mental

effort, while the quality of endurance, hardihood and concentrated earnestness and energy would be generally recognized in M. Eiffel, Fig. 117.

Fig. 117.—M. Eiffel, the celebrated French engineer, has a face and head which indicate power. The head is broad and massive, the features are heavy and firmly set, and the thought

FIG. 117 M. EIFFEL.

of courage, force, fortitude and enterprise seem related with what he is naturally inclined to do. He has become widely known among the engineers of France, and is President of the National Society of Engineers.

His great work which has especially attracted the attention of the world is the Eiffel Tower, a marked feature in the great Paris Exposition of 1889. It was a thousand feet high and was erected in the heart of Paris, was ascended by means of elevators and gave the inhabitants and visitors an excellent opportunity of taking a bird's eye view of the beautiful city. That thought was copied but vastly improved upon in the great Ferris Wheel at the Columbian Exposition in Chicago in 1893, which, by its revolution, carrying car loads of people at a time, gave them an opportunity of rising in the open air to an elevation of two hundred and fifty feet high, and then gradually coming to the earth on the other side of the wheel. One revolution occupied about half an hour and gave visitors an opportunity for surveying leisurely the Fair grounds and Chicago, and it can ever be a perpetual pleasure to the public as it can be enjoyed with perfect safety.

It will be noticed that his head is broad through the region of the temples where Constructiveness is located:—it is simply developed in a way which gives a mathematical type of thought. It is largely developed across the brows, in which region the

organs of perception and judgment of proportion are situated. The organs which give memory are located across the middle of the forehead, and they are full and amply developed, and enable him to carry in his thought vividly and continuously all the facts which culture and experience have given him.

His intellect resembles that of his mother—it is intuitive and rapid in its action. We think that the middle of his face and the middle of his head resemble his father. The nose is too large for the forehead and the cheek-bones are too broad and ample for the upper and lower sections of the face, hence we suppose that the middle section of the head running over in a belt from one ear to that of the other, and the middle section of the face, from the eye to the mouth, belong to the father. Hence he has the intuitive quickness of thought pertaining to the mother and the power of gathering knowledge rapidly which comes from that development, and then he has the masculine courage, force and fortitude which belong to the middle section of the head and the face.

He looks as though he would make a good military leader, and especially a courageous and masterful engineer.

Fig. 118.—In this portrait we see refinement and harmony of constitution with a temperament favorable to

FIG. 118. CHARLES COLLINS.

thought, practical ability, and especially is he strongly marked in Constructiveness and Ideality. So he was a natural inventor. The face has great delicacy combined with a good degree of strength; an expression of sincerity, energy, earnestness, sympathy, prudence and power are all evinced in that head and face. He had capacity to gather facts, and the reasoning power and the inventive talent combined to arrange them to the best advantage, so as to get the highest and best use of facts. He had large Order, good Calculation,

and also the musical sense. He had the signs of excellent memory, fullness through the middle section of the forehead is manifested, while the lower part, which gathers knowledge, and the upper part, which knows the why and the wherefore respecting knowledge, gave him brilliancy of intellect, accuracy of thinking and acting, and the power of combining all his knowledge in an effective way to secure decided success.

He was chief engineer on the "Lake Shore Railroad," and was well fitted for such a position. He had signs of a strong will, steadfastness, determination and firmness of purpose. He was not arrogant and not given to sudden impulses of passion. He carried his intelligence with modesty, but expressed his thoughts with definiteness and clearness. Had he been devoted to literature he would have made his mark in that direction. His Language was more accurate than copious, more specific in its expression and thought than ornate or fluent. He would have excelled as a manufacturer, as a merchant or in the realm of science. He was a natural organizer and had the ability to do good work in any field where his experience gave him opportunity. He was educated as an engineer at the Rensselaer Polytechnic Institute, in the State of New York. He was employed in engineering on the Boston and Albany Railroad; the Cleveland, Cincinnati and Columbus Railway, and in the construction of the Painsville, Cleveland and Nashville road.

This portrait is introduced to show harmony of temperament and of mental development and shows a great deal of refinement and susceptibility joined with vigor, earnestness and power. There is an indication of a high quality of constitution.

He was born in 1821 and died in 1876 from overwork and anxiety.

Fig. 119.—This gentleman represents in the main a well-balanced temperament, with the Vital a little in predominance. There is a good degree of the Motive temperament indicated by the strength of the features and the height of the head at the crown, and the Mental temperament is well represented, but it is not in excess. The Vital shows fullness of face, plumpness of figure and fullness of form. This organization would be ardent in its efforts and purposes, and at the same time steadfast and strong. In the development of the forehead we find a predominance of the observing faculties and an excellent development of the organs of memory,

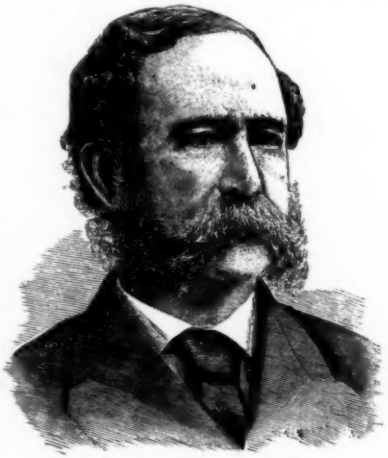


FIG. 119. GEN. WADE HAMPTON.

Eventuality, Locality and Time; while he gathers knowledge rapidly, he retains it easily, and the reasoning intellect, chiefly developed in the faculty of Comparison, enables him to use his knowledge to a good advantage and apply it to affairs of life practically with decision and readiness. He is not so much inclined toward the calm, cool, thoughtful, philosophical mode of work mentally as towards the intuitive, the practical and earnest. He is not very large in the faculties which give policy, prudence, economy and invention. He needs a little broader head to make him wise in secular matters and smooth and guarded in his statements and manifestations.

Fig. 120.—We present in this portrait the President of the Royal Society of Art in England, an organization representing whatever is delicate, refined, chaste and cultured in the realm of art and literature. He may be said to have a high quality of organization and an even development of the organs of the mind and body.

He has fineness and sensitiveness of quality, and a considerable degree of intensity. All his features show marks of refined culture; the nose is classical, the lips are full, but not indicative of the voluptuous type. He has a full eye, showing amplitude of Language and ability to express himself easily. His Order being large, he is systematical; Comparison being strong, he inclines to criticise and discriminate and finish nicely whatever he does. He has a high order of the Mental temperament, and enough of the Vital temperament to give it smoothness. Harmony seems to pervade his whole being, as well the Physical as the Mental, and consistency of character would naturally be the outcome. His face, contrasted with that of Eiffel, is most marked. There is a lack of the ruggedness which the Motive and Vital temperament impart. Yet Sir Frederick is not lacking in strength and force, but it is not of the heroic type; it is not force that seeks an outlet and must have it. He has a tall top head, which gives him a moral and ambitious type of feeling; it gives him elevation and dignity without arrogance. Hence, he has a high sense of character; he is mindful of every form of courtesy and propriety which belong to culture and good society, and a feeling of sensitiveness and refinement leads him to keep aloof from whatever is rugged, hard and coarse. Such an organization belongs in the world of art and literature.

FIG. 120. SIR FREDERICK LEIGHTON, R.A.

He would be a gardener rather than a farmer, a cabinet-maker rather than a carpenter, and an artist rather than a mechanic, and would be inclined to poetry and music rather than to didactic prose.

Fitz-Greene Halleck has a fairly balanced temperament with an excess of the Mental; Eiffel shows the Motive in about equal prominence; Collins shows the Vital and Mental in the lead; in Hampton the Vital and Motive seem stronger than the Mental; in Leighton there is a high order of the Mental with the Vital and Motive following as a background of sustaining power.

CHARACTER STUDIES. No. 6.

By Nelson Sizer.

LUCY STONE.

(See Frontispiece.)

THIS woman was one of the most earnest, single-minded and direct of personalities. The very thought of righteousness and duty was part of her make-up, and when she, hungry for education, heard that her brother could go to college, but she could not, it suggested the question, "Why not?" She found herself struggling against a public sentiment, on whose current she might float, but which she could not stem or conquer. Then she turned within and summoned every element of faith, hope, courage, persistency and intensity, which belonged to her character, and it was made up largely of these elements, and resolved that she would overcome the difficulty, she would master the situation. But, in her native place, Massachusetts, the opportunities for a collegiate education for women were not provided for one who was born as early as 1818. Three-quarters of a century have since changed many things for the better.

She had but one purpose—to know something—if possible to know as much as her brother had a right and an opportunity to learn. But she had to go to a Western State, where people were less ruled by past ideas, and where newer, braver and more radical opinions prevailed than in Massachusetts. Why could she not have lived six weeks longer than to October 18, 1893, until classic Harvard had opened its doors fully to women "on golden hinges moving."

At Oberlin, Ohio, she found a college, half a century ago, that would take a woman and educate her. It was a struggle for her to subsist, but she made her mark from the very day she entered. "Excelsior!" was her motto, and she vindicated it. She was among the earliest college-bred women in the country, and was one of their earliest platform speakers, working with such advocates of human liberty as Garrison, Phillips, Whittier, May, Pillsbury and Foster; her voice was heard with no uncertain sound. That a woman should make a public oration, that she should dare to advocate on the platform any cause which had in it the flavor of legislative government was a disgrace if not a crime.

In those early days I have seen her, a slight, short figure, bravely standing before a congregation, which felt more curiosity and prejudice than sympathy for her, but every word seemed like a cannon shot, solid, uncompromising, efficient, hitting the mark without apology and without abatement. She had the faculty of thinking compactly, reasoning closely, and of stating the truth as she understood it without wavering and without fear. Her career is widely and well known; those who have had the rare pleasure of her personal acquaintance will, without a dissenting voice, say of her that she was one of the most thoroughly unswerving persons they ever knew in the line of conduct and purpose in the maintenance of opinions which she deemed essential to the happiness of any class of people, especially the downtrodden, the neglected and oppressed. Her utterances in those early days were not popular. Many regarded her as a usurper of prerogatives that did not belong to her. She was called a crank, a disturber and a fanatic, but she lived long enough to see progress made in reforms which were dear to her; and when she adopted the Woman Suffrage question, in 1853, it looked as discouraging and as unpromising as the other causes she had advocated successfully, and which

have succeeded in the face of every difficulty. Denied a college education in 1841 in her native State one now has to consider and count the number of colleges devoted to woman exclusively, or open alike to her and to men.

Now, the question is pertinent, What conditions, mental and physical, embodied in the personality of Lucy Stone gave her such power to make unpopular truths respected? If the reader will study this face, head and temperament, he will find well set and earnest features; the face does not looked pinched and thin and puny and pale, but it looks honest, firm, thorough, staunch and self-possessed. The eye is clear and steady; the face is broad outward from the nose, showing a healthy lung power and vitality. The chin is well set; the upper lip is firm and definite. The signs which physiognomy give to Friendship in the face are very strong, and also the signs of integrity, love of truth for its own sake. In phrenological language, we say, she had a good Vital temperament, the faculty of converting food into nutrition and into brain power and life; and but for a local trouble, she would probably have lived ten years longer, and an intellect such as hers, like a lighthouse on the midnight coast, would have continued a beacon for the mariners on the stormy sea of progress and reform.

Her head was broad above and about the ears, and there were in that development elements of long life, hardihood and endurance. She had a solid, substantial constitution, and a tendency to sustain it in the normal way. She appears to have had rather large Acquisitiveness, which gave her a sense of value and economy, so that whatever had value must be acquired and so administered as to be of service to somebody or something which was sentient and needful. The faculty of Destructiveness was well developed and served to awaken in her that steady strength and courage, that unwavering stability of purpose, that special kind of moral hardihood which leads a person to think and to say, "Let justice be done though the heavens fall;" but such a person is likely to think justice will not induce heaven to fall, but rather that injustice will call down condemnation.

Secretiveness gave her a judicious way of managing affairs, and of using effectively her power and influence; truths that ought to be uttered were frankly proclaimed; those that were not yet ready for utterance she could suppress. For instance, she could conceal her discouragements; she could seem to make light of that which was not promising, and had the spirit which said "Though he slay me, yet will I trust in Him." She had perhaps as good courage as any woman that ever lived. Men would listen to her arguments and her indictments of organized public crime, and though they did not accept and follow her counsels, they would talk it over when they got away, and say, "Well, she is the pluckiest little human being I ever saw."

She had very large Benevolence, which made her generous and self-sacrificing, and was one of the reasons why she felt in respect to a cause she loved like saying, with William Lloyd Garrison, "I will not excuse; I will not equivocate; I will not retreat a single inch, and I will be heard." But the inspiration of such a declaration in him and in her would be through sympathy for people suffering a wrong. And the power to utter it would come from the strong middle lobe of the brain, Destructiveness, Combativeness and Firmness. She appears from the picture to have had strong Veneration, as well as Firmness and Benevolence. The middle line of the top head was well elevated. Her Conscientiousness was evidently strong, and she had rather large Caution. Her courage took care of her, and her Caution was exercised in considering the evils that people were suffering and

which she wished to mitigate. She was anxious and fearful for others, not for herself. She was unvarying in her friendly regard; her affections once enlisted were ever alive. She had comparatively little of mere suavity. If, from a sympathetic feeling she were led to utter a truth in a softer form than Conscience and Causality could approve, she would restate it in a way too definite and too fervent to be misunderstood.

She had a good development of Constructiveness, and that gave her a tendency to devise ways and means, to frame statements on paper or orally in such a way as to reach the right results. She would have made a good business woman if she had been devoted to trade or manufactures and to the employment of help and dealing with people at large. She would have had a good reputation for integrity, and for efficient and well directed effort. She had an inclination to systemize her work, and a good memory of what she had done, of what she wanted to do and the means by which she should accomplish the work.

Her Language was excellent; she talked well, but cared more for the strength of her utterances than for the smoothness and elegance of the diction. People who listen to a plain exposition of their faults and improprieties feel scathed and scarified by the truth, and are apt to recoil upon the speaker and say that he is a scold. Wendell Phillips was called a scold because he spoke the truth plainly as he understood it, in a very direct way; and he had a masterly power of statement, yet his language was polished and his arguments incisive. Garrison, Foster, Pillsbury, Susan B. Anthony and Lucy Stone were often so accused by such people; their themes were not popular and did not cater to a lax and guilty public conscience.

A portrait of her is before us without a cap, showing the head was high from the opening of the ears, that Firmness was one of her strongest qualities, and her Conscientiousness is nestled up towards the center of the head working with Firmness and Self-esteem. Her Conscience did not settle down next to Cautiousness, as we sometimes find it in heads, as if Conscience were taking counsel of fear. Her question would be, "What is right? What is true? What is needfull?" Her Hope was well developed and she expected success. Spirituality was not so strong. Hence she had an expectation of desired results, not so much through faith as through a consciousness that the object of pursuit was right and ought to and must finally triumph.

Another of her strong traits was Human Nature, which is shown by an elevation of the forehead just where the parting of the hair comes; the distance from the opening of the ear to that point was long; consequently she had the intuitive sense of character, motive, purpose; she appreciated an individual's personality, his integrity, his desire for truth and his disposition to be right or otherwise, and was rarely mistaken in her judgment of persons. She had Continuity strongly marked; was not inclined to drop what needed to be attended to for something else, but to follow out faithfully a line of effort that promised success, even though it were a long and weary way to reach it. Her Approbativeness worked with her Self-esteem, Firmness and Conscience. She had a desire to triumph in what she did, but had less vanity or sensitiveness of spirit in regard to the disapproval of those whom she considered to be in the wrong, and she would pity people who could not or would not see the truth as it appeared to her.

She had large Vitativeness, and therefore a strong hold on life; and few persons of her weight were able to think as earnestly and continuously or achieve results that required such tenacity of strength and endurance.

That is a wonderfully strong face,

full of vitality and vim; it looks courageous and calmly brave, yet there is not a sour expression in it. There is a cheerful confidence, a steady self-reliance, which expects success according to correct means, and that does not seek to accomplish right results by tricky methods. There are few persons whose general conversation is more clearly definite and unwavering than was hers; she talked in straight lines. There was no hypocrisy in her make-up. She had a calm, soft eye, but an honest, earnest one. Her Benevolence, Reverence, Firmness or Steadfastness were decidedly strong and she had the sublime courage of her convictions.

She had a sisterly tenderness, a motherly spirit and a strong conjugal love. Wifehood and motherhood, friendship and affection were marked characteristics, and her love of home amounted to patriotism. It was not merely the habitation where she dwelt but the state and the nation she loved and sought to benefit. Her face had a wholesome, contented, healthy look, and was singularly free from marks of age. Most people at seventy-five years of age would show lines deep and numerous.

A loving biographer, speaking of her death, says: "The gentlest and most heroic of women has passed away. A woman who, in her whole character and life, most fully embodied the highest conceptions as daughter, sister, wife, mother, friend, citizen, no longer lives to disarm prejudice and convert even opposition into advocacy. For seventy-five years Lucy Stone spent her life for others."

Stanton broke the silence at Lincoln's bedside when he had breathed his last by saying, "He now belongs to the ages."

To conclude our notice of this interesting and remarkable person we append an article by her husband, which appeared in her paper, the *Woman's Journal*, of Oct. 28th, 1893:

LUCY STONE'S LIFE WORK.

From a half century of unremitting, heroic labor, it is difficult to select. But perhaps the three most silent points in Mrs. Stone's life work were:

1. Her wonderful series of lectures, which began in 1847 on her return from Oberlin College, in the church of her brother, Rev. William B. Stone, at Gardner, Mass., and continued with unabated vigor until the birth of her daughter in 1857. This earlier work culminated in the calling of the first National Woman's Rights' Conventions ever held, the great meetings of 1850 and 1851, in Worcester, Mass. These attracted public attention throughout the entire country, and the report of the convention of 1850 inspired Mrs. John Stuart Mill to write her remarkable article in *The Westminster Review*, on the Enfranchisement of Women, which started the agitation in Great Britain, resulting in the establishment, in 1869, of municipal woman suffrage in England. The National Woman's Rights' Conventions from 1850 to 1855 were mainly organized by Lucy Stone, and their proceedings were annually published by her in pamphlet form at her own expense.

2. The calling of the convention, in 1869, in Cleveland, Ohio, which resulted in the formation of the American Woman Suffrage Association.

3. The establishment of the *Woman's Journal*, Jan. 1, 1870, in coöperation with Mrs. Mary A. Livermore as managing editor, and with William Lloyd Garrison, Mrs. Julia Ward Howe, Lucy Stone, and T. W. Higginson as editorial contributors.

In addition to these were her work during the campaigns for the woman suffrage amendments in Kansas, Vermont, Michigan, Nebraska, Colorado and Rhode Island; her participation, from 1853 on, in the annual hearings before the Legislatures of Massachusetts and other States; her active part in the preparation of the annual

meetings of the American Woman Suffrage Association for nearly twenty years; her contributions to the newspapers; her editorial writing for the *Woman's Journal* which continued until within about a month of her death; her work in the New England Woman Suffrage Association, of which she was for years the president, and in the Massachusetts Woman Suffrage Association, where she always took the laboring oar; a correspondence which extended over the whole country and taxed her strength to the utmost; and the public speaking before all sorts of gatherings, which continued till within a few months of her death. Few realized how much speaking she did. She was in receipt of continual calls to present her special subject before women's clubs and other bodies; and even up to the last year of her life, few of the younger women in her State spoke so often on the woman question. Until her last illness she hardly knew a day of uninterrupted leisure. In addition to all this public work, she was the best of housekeepers, mothers, and wives—the presiding genius of a hospitable home, which her death has left desolate. H. B. B.

SKETCHES OF PHRENOLOGICAL BIOGRAPHY.

By Charlotte Fowler Wells.

PROF. JAMES J. MAPES.

JAMES J. MAPES was born in New York, May 29th, 1806. He was not to my knowledge a lecturer on Phrenology or a practical exponent of the science, but his name is introduced in these sketches in order to reproduce the account of a remarkable case bearing directly upon Phrenology, which occurred to a member of his family, and which confirmed his belief in the science, and made him its warm advocate and a frequent visitor to our rooms. A few biographical items concerning this highly gifted and versatile man, will, therefore, be of interest.

Mr. Mapes possessed a daring and inventive mind, and when but eight years old succeeded in the bold experiment of manufacturing gaslight. At seventeen years of age he delivered a full course of lectures in New York on military tactics, embracing a very extensive range, from the school of the soldier to the more complicated duties of the field marshal. These lectures attracted a great deal of attention. He was also very much interested in the arts and sciences, even when engaged in actual business, and succeeded in painting, engraving, and drawing without undergoing the ordinary routine of discipline. He was especially devoted, however, to the study of chemistry, in which he acquired a most enviable reputation. He was appointed professor of chemistry and natural philosophy in the National Academy of Design, in which capacity he delivered one of the ablest courses of lectures on the chemistry of colors that had ever been given upon that subject.

He was also a member of the Lyceum of Natural History. On account of his acquirements and varied learning in natural history, chemistry, and other physical sciences, the honors of learned societies have been showered upon him, both at home and abroad. He was LL.D. several times over. Prof. Mapes devoted much time to mechanical philosophy, and was the first man who ever opened an office in New York as consulting engineer. His lectures before the American and Mechanics' Institutes, on mechanical phil-

osophy, chemistry, natural philosophy, etc., etc., received the most flattering encomiums from the highest sources.

As an analytical chemist he had very few superiors in this country. His analyses of beer, made at the request of the Senate of New York, and beer and wines for various temperance societies, were regarded as standard experiments. He was the first manufacturer of epsom salts from the hydrobisilicate of magnesia, and the author of many improvements in distilling, dyeing, tempering steel, etc. In 1832 he invented a new system of sugar refining, and in 1846, an apparatus for manufacturing sugar from the cane, which was adopted in Louisiana and several other Southern States, and the West India Islands. He invented a machine for tanning leather, and many other instruments and machines of a useful character which have been extensively approved and adopted.

In 1842 he became editor of the *American Repository of Arts, Sciences and Manufactures.* In 1846 he advanced his views of agriculture before the American Institute. Their novelty excited the derision of many intelligent men, and the pity of his friends. He was regarded as wild and visionary in the extreme. In the same year he removed to Newark, N. J., and located on a small farm, with the view of applying himself to agricultural chemistry. His farm became a model, and by far the most fertile and productive of any in the State. The press emphatically awarded him their highest encomiums for his extensive attainments and usefulness.

The agricultural bureau recommended by President Taylor was earnestly advocated by Prof. Mapes, and his writings upon the subject probably took the lead in suggesting the organization of such a department. He possessed great physical strength, an extraordinary amount of vitality, and a large development of the executive faculties. He was a man of great energy; he could not remain quiet, but needed continually to be doing something. He had a very large brain, measuring nearly twenty-four inches around its base. The reasoning and inventive organs were very large; so

PROF. J. J. MAPES.

also were Imitation, Form, Size, Locality and Ideality. He originated and manufactured Mapes' Phosphates which are still manufactured by his son, and used by farmers for fertilizing purposes. To sum up his character, he possessed courage, enthusiasm, earnestness, love of liberty, self-reliance, intense ambition, ardent social feelings, uncommon mechanical ingenuity and inventive power, strong reasoning ability, great talent for imitation, excellent powers of analysis, with extraordinary capacity to remember all events as well as principles of which he had once acquired a knowledge, and with a physical constitution that sustained him under any amount of labor, physical or intellectual. It will be noticed by referring to the engraving, how strikingly Prof. Mapes' phrenological developments were in harmony with his well-known character.

The interesting case to which reference was made at the beginning of this

sketch is as follows: A daughter of Mr. Mapes fell from a window when she was about four years old. Her head struck against an iron bar, which extended from the railing to the wall, and the skull was extensively fractured, but without lacerating the pia mater or doing any serious injury to the brain. She was attended by Dr. Valentine Mott. A part of the skull, about three and a half by four inches square, was removed from the superior-posterior portion of the head; the integuments were drawn over the wound and the child recovered. The part of the skull removed was that which covered the organs of Self-esteem and Love of Approbation. She did not wear any plate over the wound, but the hair over it, like that on the other parts of the head, was fine and kept short. Immediately after the wound was closed her father was struck with the variety of movements in the brain and its great mobility during mental excitement, producing, as he said, a sensation in the hand when placed on the integuments, as if one were feeling through a silk handkerchief the motions of a confined leech. There seemed to be a drawing together, swelling out, and a vermicular kind of motion in the brain. This motion was felt in one place and became imperceptible in another, according as different impressions were made on the child's mind, but having at that time only a meager acquaintance with Phrenology, he could not describe either the feelings or the precise localities in which the movements occurred. He observed, also, that when the child's intellectual faculties were exercised the brain under the wound was drawn inwards. The most remarkable fact in this case was that previous to the accident—evidently from some mal-conformation—the girl had not manifested the intellectual powers common to children of that age, whereas, on her recovery from the physical disability she exhibited extraordinary acuteness of perception and strength of the reflective faculties, which still continues to be the case. The sentiments were also remarkably active and susceptible. In 1839, when she was eight years old, she was visited by George Combe, (who was introduced to Prof. Mapes by Capt. S. W. Dewey, a great friend of Phrenology.) Mr. Combe gave the following account of this interesting interview:

"I found the child healthy and intelligent, with no external trace of the injury visible to the eye.

"The form of her head is that of a superior female child. It is long and moderately broad at the base; Secretiveness, Approbativeness, Self-esteem, Cautiousness, and Firmness are all large. Benevolence and Veneration are well developed, and the anterior lobe is large. I saw the pieces of the skull which had been removed; the skull has not been replaced. On applying my hand I felt the brain rising and falling with the respiration, and distinctly ascertained that the organs of Self-esteem and Love of Approbation were denuded of the skull; also a small part of Conscientiousness, and the posterior margin of Firmness.

"I kept my hand for some minutes gently pressing on the external integuments over the site of the injury and distinctly felt a considerable movement, a swelling up and pulsation in the organs of Self-esteem, and the same movements, but in a less degree, in those of Love of Approbation. When I began to talk to the child, she was shy and bashful, and at first would scarcely speak. The vivid movements in Self-esteem indicated that amidst her extreme bashfulness this organ was active. As I continued to converse with her, and succeeded in putting her at her ease, the movements in Self-esteem decreased, while those in Approbativeness continued. I spoke to her about her lessons and attainments, not in flattering terms, but with the design of exciting Self-

esteem; and the movements increased. Again I soothed her, and they diminished. This was repeated, and the same results ensued. Her father gave her several questions in mental arithmetic to solve; she was puzzled, and made an intellectual effort, and the peculiar movements in the organs of Self-esteem and Approbativeness ceased, only a gentle and equal pulsation was felt. She solved the question, and we praised her; the peculiar movements in Self-esteem and Approbativeness returned and increased. This experiment was repeated at least four times, with the same results. I took out a piece of paper and began to write down notes, in pencil, of what had occurred. She looked at my writing, and as all attention was now withdrawn from herself, and her mind was occupied intellectually in observing what I was doing, I placed my hand on the integuments and only the gentle and regular pulsations of the arterial system were perceptible. This case is replete with instruction in practical education. It tends, so far as one example can go, to prove that, by exercising the intellectual faculties, we do not necessarily excite the feelings; and also that each feeling must be addressed by objects related to itself before it can be called into action."

It is quite apparent in this case, that the faculties, whose cerebral organs were situated directly beneath the cranial fracture, . were mostly affected by the accident, and also that the cause of mental dullness, previous to that circumstance, was attributable to the pressure of the skull on the brain. This is found to be no very uncommon circumstance. Numerous instances of a similar nature are recorded in the medical books. The agitation of the brain on excitement of the mind was illustrated by a case of Sir Astley Cooper's in which the brain being exposed, and the patient made to exercise his mind powerfully, the brain was protruded by the mental effort some lines above the skull, but receded on the relaxation of the mental activity. These facts possess peculiar interest, as connected with Phrenology, in throwing additional light upon the functions of the brain and its relations to the cranium.

ALUMNI ANNUAL MEETING.

After the graduating exercises of the class of '93, there was a meeting of the Alumni Association, the President, M. J. Richardson, of '70, presiding. After the reading of the minutes of the last annual meeting and the Treasurer's report, and a general presentation of the objects of the association, the following were admitted into membership: Matt. W. Alderson, '75; H. J. Olney, '75; Fred. W. Perkins, '89; U. T. Brenz, '92; Edgar C. Beall, M.D., '77; C. C. Martin, '80; Wm. Musgrove, '75; C. F. Sermin, '91; and the following from the class of '93: F. M. Cooper, M.D.; Prof. W. S. Bell, Wm. Jackson, J. W. Foster, J. J. Axtell, P. L. Conklin, C. H. Jones, Wm. Welsh and John Dykes.

The following were elected as officers for the coming year: Chas. E. Cady, of '85, President; C. W. Brandenburg, M.D., of '89, Vice-President; Albert Turner, of '91, Secretary and Treasurer. One Vice-President from each class represented in the membership as follows: Wm. Jackson of '93, Geo. Markley of '92, Jules Buchel of '91, Mrs. L. Bausch of '90, H. T. Estabrook of '89, J. B. Harris of '88, Albert Bausch of '87, Miss M. L. Moran of '85, Miss M. E. Herrick of '84; Samuel Groh of '81. Committee on Ways and Means, M. T. Richardson, Dr. Edgar C. Beall and Dr. C. W. Brandenburg.

The executive committee have not yet announced the working com-

mittee. The scientific meetings held under the auspices of the working committee are referred to on another page and show something of the work that is being done by this association.

Alumni meetings under the auspices of the working committee of the Alumni Association of the American Institute of Phrenology were held Monday afternoon, Oct. 30th, when the following papers were presented: "Phrenology in Schools and Colleges," by G. H. Greer of California; "Phrenology and Insanity," by Dr. H. A. Buttolph of New Jersey; and "Phrenology in the Ministry," by the Rev. N. F. Douglass of Iowa. Following these papers there was an animated discussion, especially in relation to the paper by Mr. Greer, and many strong points were brought out. At the evening session, Dr. H. S. Drayton read a paper on "The Brain of Woman Relatively"; Bernard Hollander, on "The Centres of Musculation Against Ideation"; and Dr. Edgar C. Beall, on "The Faculty of Human Nature." These were also discussed. The paper by Dr. Drayton attracted a great deal of attention, and called out many ideas and suggestions.

These meetings have come to be a very important feature of Phrenological work, and are attended by large audiences. A summary of the papers may be expected in future numbers of the JOURNAL. It is hoped that the Association will take steps to secure the regular publication of the papers presented and the discussions which follow.

CHILD CULTURE.

CRYING AS A SYMPTOM OF DISEASE.

TO tell the nature of a young child's ailment is not always easy even for the most experienced physician. Sometimes it is quite impossible to make the necessary examination, especially if the malady involves the glands and muscles of the mouth and neck. In the crying of sick children, however, there are many peculiarities which when differentiated lead to correct conclusions. Dr. Hill, a Canadian physician gives some points of value in this regard that will assist a parent who may be compelled to depend upon herself for at least the early care of her baby.

In pneumonia and capillary bronchitis the cry is moderate and peevish and muffled as if the door were shut between child and hearer. The cry of croup is hoarse, brassy, and metallic, with a crowing inspiration. That of cerebral disease, particularly hydrocephalus, is short, sharp, shrill, and solitary. Marasmus and tubercular peritonitis are manifested by moaning and wailing. Obstinate, passionate, and long-continued crying tells of earache, thirst, hunger, original meanness or the pricking of a pin. The pleuritic cry is louder and shriller than the pneumonic, and is evoked by moving the child, or on coughing. The cry of intestinal ailments is often accompanied by wriggling and writhing before defecation, an indication that the nurse soon learns to interpret. Exhaustion is manifested with a whine. Crying only, or just after coughing, indicates pain caused by the act. The return or inspiratory part of the cry grows weaker toward the fatal end of all disease, while the absence of crying during disease is often of graver import than its presence, as it shows exhaustion and loss of power. Loud, intense screaming sometimes tells of gravel.

THE ORISSA TWINS.

THE introduction of the famous Siamese Twins to the public was attended with great surprise and curiosity. But since then there have been several examples of twins united by bands of flesh or bone that rendered them inseparable by any device known to surgery. Everybody has seen the colored girls who sing and dance, and that double-headed boy wonder that walks on but one pair of legs. Recently a fresh instance of conjoined duality has come to notice. They are the Orissa Twins, having been born in that part of India. They are girls and are named Radica and Doddica, now being abou four years old. Unlike the Siamese and colored twins they are attached breast to breast, by bone and intestinal connection. So that if food be given to one the other is satisfied, and if medicine is administered to one the other is affected, but not to the same extent as the one to which it was given. The most curious circumstance is that when a sentence is begun by one child the other frequently finishes it. When sleeping, one child lies on her back and the other on her side, which gives an idea of the great flexibility of the connection.

THE ORISSA TWINS.

The children seldom quarrel, but when younger their proceedings were not marked by that agreement which they have since learned to be essential to their circumstances. As might be expected, when their relations became strained there was considerable tension between them, but when it gradually dawned upon their growing intelligences that when one was hurt the other had to cry out of sheer sympathy, a mutual understanding was arrived at that "rows" should be discontinued, and now balmy peace reigns supreme. They have been taught English and, although they do not speak it freely as yet, they seem to understand it fairly well.

It is likely that the children will be taken on a tour through America, so that the public may see this interesting freak of nature.

TRAINING THE FEEBLE MIND IN LONDON.

THE London School Board has instituted classes for the special instruction of children, incapable by reason of physical or mental infirmity of being taught in the ordinary elementary day school. Two hundred and sixty-five children, selected mostly from those attending the ordinary schools, have been under this special instruction, and the results have been gratifying and encouraging.

The *Journal of Mental Science* expresses interest in the project, and refers to it as follows: "The system of teaching adopted follows somewhat on the lines of that found serviceable in institutions for imbeciles, sense, culture, manual training, and above all the development by enticing methods of the faculty of attention, forming important items. Lessons are brief and of a practical character, and the afternoons are devoted chiefly to manual occupations, such as modeling in clay, weaving in papers and cane, macramé work and needlework, great care being taken that these occupations shall not develop into a mere mechanical process, but each have a definite object to be reached. Lessons in articulation and in gymnastic exercises are of frequent occurrence." Mrs. Burgwin, the superintendent of these classes, says as to the result of the teaching: "Some of the pupils after the government examination will be able to return to the ordinary day school, whilst others will have to be excluded from the classes, having proved themselves incapable of making progress in any branch of work. These can only be classed as imbeciles." In regard to the pupils, she states "many of them are untruthful, in fact seem utterly devoid of conscience, and a great deal of time is spent in inculcating the virtue of truth and honesty in word and deed. While a few are gentle (often through feebleness) many are very spiteful, and discipline is a source of much anxiety." The morning session is devoted to Scripture teaching, the three R's, drawing, with play, singing, gymnastic exercises, each lesson occupying about twenty minutes.

CITY LIFE AND EYE DEFECTS.

IT is satisfactory, a writer in the *Spectator* says, to be told that in England blindness is slowly declining, though Great Britain still stands in this respect behind two other European countries and three more come before Ireland. Short-sightedness, however, appears to be increasing everywhere, Germany having a signal and sinister pre-eminence in this respect. A French doctor has noted the remarkable fact that wild beasts caught when quite young or born in captivity become short-sighted, the conclusion being that the eye adapts itself to its habitual sphere of vision, and unless educated to see objects at a distance, loses the capacity of so doing. Even in after life, the eye may be to some extent so educated though probably only when the myopia is not considerable. It is within the experience of the present writer that his sight greatly improved in days gone by, when he became a volunteer, by practice at the butts, so that while at first he could not see the target to shoot at, without spectacles, at the three-hundred-yard range, after a twelve-month or so he only needed to put on spectacles at four hundred yards. But beyond that range he was never able to dispense with them. Country excursions are therefore extremely valuable means of strengthening the sight of town-bred children, and the conductors of such excursions should take pains to direct the eyes of the children to distant objects, to the farthest hill, church tower or other landmark, noting if possible any incapacity to discern the selected object, and then selecting some nearer one for the weaker-sighted.

THE SCIENCE OF HEALTH

MEDICINE OR NATURE.

TO one who with some knowledge of physiology and pathology studies disease in a careful, unprejudiced manner, much uncertainty will occur as to whether it is the medicine that cures or nature. Years ago the great M. D.'s administered large doses of powerful drugs, insisting that such a method was necessary to get the desired effect. Today the enlightened and progressive physician is found prescribing very small and even infinitesimal doses of the same drugs, and claiming to get results that the old doctor scarcely dreamed of. Then, too, the modern therapeutist often counsels good nursing and good hygiene or the entire disuse of any internal medication, and that in cases which appear grave.

It is beyond question that in many forms of serious disease, the fevers notably, that modern treatment is vastly superior to the old, since the ratio of fatality is far below that of a generation ago. The question naturally arises: Is this improvement due to the advanced hygiene of our time or to the change of medical treatment? Or is it due to a combination of both advances. If it is proper to affirm the last inquiry, it becomes expedient to ask: How much of the improvement is to be credited to the account of hygiene, and how much to the account of the "remedies" for whose preparation the aid of the pharmacist is called?

While we may not be able to set down in determinate numbers the part that hygiene plays in limiting disease or curing the sick, we know that its influence is very important. Free ventilation, cleanliness, nutritious food, sunshine, kind, cheerful, intelligent attendance—one would scarcely set bounds to what they may accomplish remedially as well as preventively. We know that clean streets and clean houses do not invite contagion, and that the temperate and careful endure exposure to ordinary causes of disease without harm, when the intemperate and negligent in like circumstance would be stricken down. The appearance and disappearance of yellow fever, cholera, smallpox and other contagious diseases are matters of sanitary inquiry, and condemn or approve the management of health boards.

Turning now to the part played by the formulæ of the doctor in curing the sick we find ourselves involved at the beginning of an inquiry by many uncertainties. Foremost among these is the prevalent, if unacknowledged, ignorance of the profession in regard to the process by which so-called "remedies" act upon organ and function, and where the line should be set to separate benign effects from pathological. Recognizing the poisonous qualities of these "remedies," the small dose would appear to commend itself as eminently judicious, and by repetition likely to be "cumulative" in effect, but who possesses that scientific positiveness to say even after an inspection of the patient how many tablets or drops will be "cumulative." Further, who could assume that infallibility which may declare whether or not the effect so "cumulative" would be unattended by injurious results?

Let us take for an illustration the sulphate of quinia, a drug the opera-

tion of which is as well ascertained, certainly, as that of any known medicament. Its special property appears to be to antagonize the return of periodical fever. But in what way does it accomplish this? How does its essential virtue affect the organism—and what part of the organism—to interfere with the febro-genesis? One authority tells us that it is by certain chemical changes which it induces that the malarial, or what not, poison in the blood is neutralized. Another authority regards quinia as possessing an anti-periodic virtue in itself that adapts it to certain forms of febrile attack. Again, there is authority for the view that quinia is a tonic of no mean power, and very serviceable in conditions of debility, whether of a nervous or assimilative nature. Through the tonic action the system is invigorated so that it may overcome and destroy disease germs.

One would think from the very extensive use of quinia by physicians of different schools that it was almost a panacea for all sorts of maladies, periodic, continued, occasional, acute and chronic. And yet we find those who most frequently dose themselves with this cheap and accessible remedy to be more or less complaining of the ills it is supposed to cure. Further we know that notwithstanding its position before the medical world as one of the "remedies" best understood it may be productive of serious local or constitutional disorder, and instead of having a curative effect may precipitate a crisis of dangerous nature. In those sections of the South and West, where this drug is in very common use, the "malarial" subjects exhibit a variety of symptoms more or less uncomfortable that are traceable to its poisonous effects.

The writer, when a boy, had a severe attack of intermittent fever, and was heavily dosed with solutions of quinia, the effect of which was to depress him greatly without stopping the recurrences of the fever at all. The physician in attendance persisted with the quinia until the symptoms of exhaustion forced the conviction that the medicine had been making matters worse.

Now if the operation, physiologically or pathologically, of sulphate of quinia were roughly known it is clear enough that physicians would not use it so generally, *i. e.*, so experimentally, and would have better results to show for its employment.

Other old and standard medicines might be considered in a similar vein. To them virtues many and various are attributed, and yet they are found wanting when their vaunted potencies are most required. Take up any much-circulated medical weekly or monthly, and numerous advertisements and "provings" are seen on the fly leaves, and setting forth in the reading matter the remarkable effects of new preparations or new combinations of old familiar remedies. But what of the real history of these "new remedies?" They come in with a flourish of type, with the names of certain M. D.'s, who say that they have found their exhibition in this or that malady to have quite met the promise of the manufacturer, and that they merit the consideration of the profession at large, but a little later they go out quietly, unobtrusively, like the poetized Arab, and nobody seems even to wonder at the disappearance. Strange incongruity of business and professional medication! If a fraction of these compositions had the virtues ascribed to them certainly there would not be a tithe of the sickness that exists among our population.

Consider for a moment the differences of opinion among physicians with regard to that large class of defervescents of which antipyrene is representative. Some declare that they are of great assistance and do the work that is claimed for them. Others as firmly insist that they do not obtain good effects with them, but on the contrary, that they affect the

vital functions injuriously, and are not only unsafe but dangerous. The reader can recall the *grippe* epidemic of three years ago when antipyrene was extensively used, and the cause, it was claimed, of a large proportion of the fatality occurring at the time or following the epidemic invasion. To-day not a tenth part of antipyrene is used that was the case a year or so ago.

There is no limit to the range of suggested remedies for, say, pneumonia, or rheumatism, and yet how small the ratio of cures in this day of boasted scientific progress is to be credited to *secundum artem*. Take the report of the health authorities of New York for 1892 and it will be noted that of about 44,500 deaths those due to zymotic diseases were nearly 9,300 — over twenty percentum—while diphtheria destroyed over 1,800, and "local" diseases, so called, carried off 21,500. From the same source we have it that the latest returns show an increase of typhoid fever in the State at large with a greater fatality, and also a marked increase of diphtheria and allied affections in country towns. These reports substantially tell the same story of the inefficiency of medicaments after years of trial, and that to obtain success in the management of disease hygienic methods well understood and intelligently applied are the only sure resource of the physician.

H. S. D.

(To be continued.)

SUGGESTIONS OF CAUSE IN HEADACHE.

IN the course of a discussion of the causes and remedies relating to headache, a medical critic says:

Persons who are subject to rheumatism occasionally have headaches which are attributable to that disease. The pain in rheumatic headache, as a rule, is quite extensive, and felt over much of the head. It is sometimes heavy and aching; again, it is sharp and shooting. Occasionally the pain is confined almost entirely to the forehead or temples. In such cases it is assumed by some authorities that the muscles of the eyes are specially involved by the rheumatism. There is nothing in rheumatic headaches which clearly indicates their actual cause, but if the pain is associated with tenderness or soreness of the scalp and the headaches are worse at night, and come on in weather which is popularly termed "rheumaticky," then it is pretty safe to assume that the victim has a rheumatic taint which is responsible for them. One writer tells of an interesting case, that of a sculptor, who was about to abandon his profession on account of excessive, intractable headaches. The physician in question found that the headaches occurred only during the time when the artist was working upon the model in wet clay of a large composite life-size group. He therefore resorted to anti-rheumatic treatment and the results were eminently satisfactory.

Gouty subjects also suffer at times from headaches, which are generally worse in the morning. The pain felt is usually dull and heavy, and not very intense, but in some cases it is really agonizing. It is doubtful if gout alone can cause these headaches. The most of the subjects of it are very full-blooded. They also suffer from digestive and other disturbances.

In diseases of the kidneys, when those organs have become involved to such an extent that they are unable to do their work properly, certain poisons, which they should separate from the blood and throw out of the system, are allowed to remain in it. Headache is one of the indications of their retention. It takes on many different forms, but in a large propor-

tion of cases it is limited to the forehead, and patients describe the pain as a feeling of tightness, as though a tight band was tied around the head.

Indigestion, biliousness and constipation are conditions which very frequently give rise to headache. In just what way they act to produce the result is not known, but it is quite safe to assume that in consequence of these conditions poisonous matters are often absorbed from the stomach and bowels, and they more or less upset the general nervous system and the brain. Headache due to these causes is usually frontal, but it may be general. Dr. Brunton has made a close study of headaches of this class, and found that in constipation the pain affects the entire forehead, from the edge of the scalp to the eyebrows. In cases of headache higher up on the forehead, and just below or at the commencement of the scalp, he found, where constipation did not exist, that there was almost always a form of dyspepsia suffered from which called for the use of alkalies. Whereas, if the pain was located below this area —below the middle of the forehead— dyspepsia existed, which demanded the use of acids. When poisons are absorbed from the stomach and bowels, as has already been stated must often be the case, there is usually a tendency to giddiness, often some trouble with the eyesight, and almost always a depression of the spirits.

Among the common causes of headache brain exhaustion must have a prominent place. Brain work may bring it on, but where frequent headaches due to these causes are suffered from, there is usually lack of nerve strength—a certain amount of nervous debility. In such cases severe mental effort, or the giving way to powerful mental emotions, is quite certain to be followed by headache. In this form the pain is dull and heavy, and seems to be deep seated. It may, of course, be slight or very intense. The headache of brain exhaustion is quite generally associated with insomnia.

There are many other forms of headaches, but a consideration of them altogether, with their causes, would fill a volume. One fact, which must now be clear to the reader, is that headache, a symptom as it is of so many morbid states of the system, and dependent upon so many different causes, is an affection not always easy to treat. Sufferers from it, as a rule, when they consult physicians expect immediate relief, and if it does not come they are quite sure to vote their advisers incompetent. As long as its cause remains it is but natural to expect that the affection itself will persist.

CRIMINAL SUGGESTION IN EVERY DAY LIFE.

IN the *Arena* is a very practical, suggestive paper on "The Psychology of Crime," in which the responsibility of the daily press is earnestly urged. The author, Mr. Henry Wood, says: "Society concerns itself considerably with the punishment of crime, but very little with its prevention. The punishment for overt criminality is conventionally supposed to act as a powerful deterrent, but it has only a limited power in that direction. It is important that there should be an intelligent and general knowledge of the constructive process through which criminals are made. They do not come by chance, but grow, and their growth is through suggestion. The immediate psychical impulse which proceeds the overt act is but one link in a chain which reaches back indefinitely. The luxury and artificialism of our modern civilization, the struggle for wealth and social position, the pursuit of sensuous gratification—all of these are powerful factors which disintegrate character, obscure high ideals, and bring disorder and abnormity into overt manifestation. But perhaps a more

potent element of demoralization than any of those above enumerated is found in the deluge of delineated criminality and other morbid reading matter in which the community mentally dwells, the malaria of which it is constantly inhaling. This great unceasing supply of unsound mental pabulum comes in the forms of offensive sensationalism in the daily press, flashy illustrated weeklies and the cheap 'blood and thunder' fiction which is devoured in unlimited quantities by young and immature minds. The world is full of 'suggestion' of every quality. That which is distinctively classed as hypnotic is in quantity but a drop in the bucket when compared with the everyday variety. Society in general is responsible for its criminality. Its criminals are not detached units on the outside but rather eruptions from within. The circulation of the body politic is impure. The modern 'daily' possesses a gigantic power to mould and color public consciousness. The purveyors of the daily press cannot be expected to be disinterested philanthropists more than other men though their power and responsibility are great. A majority of readers want sensationalism and supply responds to demand. The main hope for reform must begin with the public or on the side of demand. The great need is a more intelligent understanding of the psychological laws of suggestion and subjective realism as causative forces. Results can only be modified through internal and underlying antecedents and not by mere external repression. The scientific way to destroy evil is not to hold it up and analyze it in order to make it hateful but rather to put it out of the consciousness. To the degree that one does not see it, to him it becomes non-existent, because there is nothing to arouse its vibrations within."

DIET AND APPENDICITIS.

So many operations have been performed within the past five or six years by American surgeons for the relief of people suffering from that serious malady, inflammation of the vermiform appendix, and so many deaths have been attributed to the same cause that an inquiry into the relations of diet to the disease has been considered very pertinent. It had been the common idea that disease of the appendix must be set up by some foreign body of an insoluble nature getting into it, as into a trap, and once there it could not get out, of course, and so made trouble. But it has been shown by the many cases that have come under the surgeon's observation that the disease is oftener set up by other causes, especially that of the extension of an inflammatory process from the ileo-coecal region into the superfluous appendix.

It has been found latterly that diet plays a not inconspicuous part in ths production of the trouble, and it i well for the public to know that immunity appears to lie in the adoption of a diet that is almost entirely vegetarian in its constitution. A physician in Japan has recently written to the *Medical News* with reference to the matter, and we quote from his letter:

"I have been in the habit of taking quite a different view from the ethnologic one of the immunity to appendicitis. It seems to me that the diet has very much to do with it; temperance in eating, aseptic hot water (Japanese tea is drunk continually), vegetable diet (Japanese eat rice in enormous quantities, as all the world knows), absence of meat diet (almost absolute in Japan), with its ptomaines and leucomaines, may be, after all, the cause, though indirectly, of the absence of appendicitis in Japan.

A vegetable diet necessitates a large extent of intestine, and this extraordinary intestinal length belongs to the Japanese. The following passage from one of Dr. Scheube's articles will, I think, be interesting in this connection: 'In my "Remarks on Japanese Diet," I said that very probably the rice is better used up in the intestine of the Japanese than in that of the European, and I expressed a surmise that the Japanese intestine must be the longer of the two. I had before me, at that time, one single measurement,—that of the intestine of an adult Japanese. The total length of the intestine amounted, in this sample, to 995.5, of which 183 belonged to the large intestine. The length of the body itself was 156.5.'"

The result of comparative measurements appears to show that the absolute length of the intestine is greater in the Japanese than in the European. But the writer has a theory which we will permit him to ventilate.

"I must add here a few words explanatory of the manner in which, to my mind, the effect of the vegetable diet is produced. The vegetable or graniferous diet is gaseous. The gases, inflating the intestine, prevent the impaction of the appendix vermiformis.

"But, however it may be explained, the fact remains that those people among us whose fare is of the plainest and least concentrated (which is the nearest approach to pure vegetation diet) are as exempt from appendicitis as any Japanese could be. The disease chooses for its victims only the highly fed, the great meat eaters, wine bibbers, and those that keep the blood in that plastic and consequently inflammable state which a meat diet naturally produces.

"Therefore, let any one who has suffered from a first onslaught of appendicitis betake himself to a diet of hot water (omitting the spirit) and vegetables, and taboo the meat."

NOTES IN ANTHROPOLOGY.

Egyptian Chemistry.—The following notes on ancient chemical apparatus and laboratories are taken from an abstract of the transactions of the New York Academy of Sciences, published in the *Popular Science News*. The Egyptians attained great skill in industrial arts at a remote period and have left records of a most enduring character, pictures cut in their granite tombs and temples. There we see the processes of gold-washing and smelting; the use of blow-pipes and of double bellows for intensifying heat, various forms of furnaces, and crucibles having a shape quite similar to those used to-day. Some of these crucibles, preserved in the Berlin Museum, date from the Fifteenth Century, B. C. The skill of the Egyptians in manufacturing glass is depicted on monuments of Thebis and Bemi Hassan and dates as far back as 2500 B. C. Siphons for decanting wine and on a large scale for draining land were in use in the Fifteenth Century, B. C. The earliest chemical laboratories of which we have any knowledge are those that were connected with the Egyptian temples. Each temple had its library and its laboratory commonly situated in a definite part of the huge structure. In these laboratories the priests prepared the incense, oils and other substances used in the temple services, and on the granite walls were carved the recipes and processes. The Israelites driven out of Egypt carried with them knowledge of the technical and artistic skill of their contemporaries, and in the Bible are frequent allusions to industrial arts. Cupillation and the bellows are described by Jeremiah, and metallurgical operations by Job, Ezekiel and others Giber, the Arabian physician and chemist of the eighth century, wrote very plainly of chemical processes, describing minutely solution, filtration, crystalization, fusion, sublimation, distillation, cupillation, and various kinds of furnaces and apparatus

employed in those operations. Giber describes in detail the aludel (or sublimatory of glass), the decensory apparatus for filtration, and the water bath. This latter instrument, however, is said to have a more remote origin, having been invented by an alchemist named Mary, who is identified with Miriam, the sister of Moses. The balance as an instrument of precision reached a high development under the Arabians as early as the twelfth century. In an interior view of a laboratory of the fifteenth century by Vriese, very sumptuous appointments are seen; a lofty room with tiled floor, furnaces on the right under an overhanging hood, an altar on the left, before which the alchemist prays on his knees; in the centre a table covered with apparatus, books and musical instruments; in the foreground an alembic, overhead a lamp swinging from a ceiled roof. The whole indicates wealth and luxury, and contrasts strongly with later pictures of the laboratories of impoverished alchemists.

Recent Discoveries of Skulls in Egypt and Greece.—Last year, before the British Association, some skulls were exhibited and described which were of men said to have lived six thousand years ago. They were brought by Mr. Flinders Petrie from Egypt and taken from tombs of the third or fourth dynasty. They were rather dolichocephalic—about 75—and from the general relations of the skeleton, belonged to a somewhat undersized race, with negroid characteristics. They may have been slaves or a mixed strain. Not less interesting is the description recently given by Professor Virchow of some Greek skulls of ancient date. One of them, from Menidi, was believed by its finder to be that of the great classical dramatist, Sophokles. The oldest were from Mykene, Sparta, and Namplia, and were prehistoric. They were all slightly brachycephalic, orthognathic, with the nose rather broad. The grave of Sophokles is believed, on a certain amount of literary evidence, to have been on the road from Acharnai, the modern Menidi, to Dekeleia, about eleven stadia from the latter. Following this close, the archæologist, Winter, opened a tumulus at this point and came upon a stone wall enclosing four sarcophagi, two of marble, each containing a male skeleton. One of these was of a very old man with a cane by his side, an alabaster vase, etc. Sophokles died at ninety years of age, in B. C. 406, so the character of skull as that of a very old man corresponds. It proves on examination to be long, 73.3, with a remarkable irregularity between the right and left hemispheres, the left temporal sutures nearly obliterated, the forehead broad, the face narrow and high and slightly prognathic, the nose narrow, the capacity about 1,340 c. c. Possibly it is the very skull of the old poet.—Dr. D. G. Brinton in *Science*.

The Mound-Builders, — The Mound-builders, those interesting pre-historic people, about whom are so many speculations and so little satisfactory knowledge, are the subject of an interesting paper by T. L. Gaertnor, L.L.B., in the *American Antiquarian*, from which the following extract is taken: "The Mound-builders may have lived during the disturbing epoch (after the glacial period) to the south of the glacial region, and followed up the retiring sea of ice until they reached the chain of the Great Lakes, gradually extending their dominion northward even as far as Michigan and Wisconsin, making at the time only two classes of people and two types of aboriginal life. It is supposed that at some time subsequent to the glacial period, and perhaps quite late in the pre-historic age, they were met by the race of hunter Indians, who had crowded in between the ice regions and the Great Lakes, and for a long time occupied the forests of the North. During this time the Mound-builders were given to agriculture and were not warlike, but lived peaceably in their established settlements and built their villages in the fertile valleys of the Ohio and Mississippi rivers. By some these Mound-builders have been closely identified as a people resembling if not related to one of the ancient Mexican races, the Nahnas, whose origin is said to have been at the East and their migration to the West. From the Indian legends we get a scant and of course not perfectly trustworthy account of this ancient race. It is noteworthy that this tradition does not claim the Mound-builders to have

been the Indians' progenitors, but on the contrary pronounce them a distinct race of people from the Indians. The ancient tradition of the Delawares says that the Mound-builders were a great nation and had many forts and temples, and they called themselves Allegewi. So the Delawares gave to the stream which marked the eastern boundary of the strange race the name of Allegewi-hanne (hanne meaning stream) and to-day we have perpetuated the name of this mysterious race and perhaps the oldest of American words—Allegheny. But we have gone one step farther and adduce evidence showing that the ancient Nahnas afterwards became incorporated with the more ancient Mayas, though they dwelt in the land of the Mound-builders, the Nahna exodus from the Mound-builders' realm having taken place about the year A.D. 241. A considerable degree of contrast can be recognized in the skulls which have been found between the Mound-builders and the American Indians. The skulls of the former show a much fuller development. A remarkable feature is the hyrid, or tongue bone, which is differently shaped from that of any known human race. If we follow the explorations southward we find a constant increase in the size and conformation of the crania of the Mound-builders until we find near the Gulf of Mexico that the race had reached the zenith of its civilization. Judging from their remains the Mound-builders had achieved a considerable degree of civilization before they were overcome by their enemies. They probably devoted a greater part of their time to agriculture and to the construction of their temples (mounds). They also erected fortresses which were used for the protection of their people against the predatory warfare of hostile tribes or even, it may be, against the incursions made by other Mound-builders."

Remains of Early Indian Pottery.—In an article on Indian Relics, in *Science*, attention is called to the fact that it was customary among the Indians to visit the seashore at certain times of the year, as evidenced by the enormous quantities of shells in heaps found along the shore, which also bear witness to the Indian's fondness for oysters, clams and mollusks. Special mention is also made of the remains of what must have been large, permanent villages in South Jersey. The author, Mr. Gifford, of Swarthmore College, says: "Of all they have left behind them sherds are the most abundant, and fortunately most valuable. Pottery is an unmistakable evidence of man. Natural formations simulate his handiwork, but pottery, no matter how coarse, is a sure sign of human habitation. It marks best the progress of culture, since that was one of the first, the most lasting, and the easiest method of expressing his artistic fancies. The mud pie was the germ of art. The culture of a people is often too quickly judged by the coarse sherds which cover almost every campsite. They made common vessels for common purposes. With the distinction of vessels began the separation of artist and artisan. We must measure ability, therefore, by the finest specimens found. No whole pots have, to my knowledge, been found in South Jersey, but from the curvature of the bits some of them were of very large size. Some of the shreds are not decorated at all, others show signs of more artistic ability than is usually credited to the Indians. The majority are soft, coarse, and mixed with bits of quartz. Some are hard and fine. Some contain holes near the rim for a bail, indicating that they carried their vessels in their hands and not on their heads. They vary in color owing to the nature of the clay. Some have peculiarly ruffled surfaces due to the kinds of moulds in which they were formed. The majority were moulded in baskets of grass. Some are ornamented with straight lines and dots, others with curved lines and dots in curves. The simplest decoration is a dented edge. Lines often cross each other to form square and diamond figures. The top is often fringed with highly decorative bands. Many of the markings simulate the tracks of animals, and on one potsherd is a picture of a human hand beside another hand in the act of gesturing. Some of these are covered with what a potter would no doubt call "slip," that is, a very fine clay mixed to the consistency of cream.

Ex fronte, ex capite, ex vultu, etiam in ipso oris silentio natura loquitur.

PLATO.

NEW YORK,

January, 1894.

A HALT DEMANDED IN COLLEGE ATHLETICS.

IT would appear from the public exhibitions of the past five or more years that colleges and universities in this country are run for the purpose of training young men for physical encounters in public rather than for intellectual careers. In fine the reputation of an institution, however old, seems to depend upon the success of the boat or ball clubs organized by its students in contests with similar clubs of other institutions. No sooner does the Fall term open than boat races, ball matches, etc., are the chief topic of social and newspaper talk, the merits and probabilities of this team and that being canvassed according to the rules of the sporting calendar.

The spirit of contest and rivalry has been carried so far that we are reminded of the Roman Ampitheatre, and are inclined to wonder whether or not at this late period of Christian civilization American society is to tolerate a sort of revival of those old brutal struggles for muscular superiority.

The average college student appears to regard the old-fashioned games with their elements of healthful fun, as too passive or tame, and zealously advocates those new forms of "sport" that involve positive features of danger to life. The latest outcome of football, as everybody knows, is a veritable battle in which two well-trained companies of young men violently and, as it would appear from the exhibitions of conduct in every match, desperately struggle to accomplish those things that will *score* in their favor.

The New York *Tribune* describes the appearance of a defeated team in a recent fight—no, we meant "match"—as follows:

"About the entrance to the hotel were perhaps five hundred people waiting to see what a defeated Yale team loooked like. And they saw.

"But they never saw a more woebegone, used-up, pale-faced, bruised and bloodied lot of respectable, healthy, sane young men before. One by one the players crawled down off the coach and passed into the hotel through the alley made by the police through the crowd. Two of the players had to be helped, half carried, by substitutes. The men had come directly from the field, and were in their battle clothes. Their faces were muddy and marked with bloody streaks; their sweaters were stained and reddened, their heads a mass of tangled hair. In their dilapidated condition, marked with defeat, they did not look the strong, powerful young giants that had driven away from the hotel so full of confidence, and sure of victory, earlier in the day."

These "young giants," we suppose,

had been sent to college by their friends to pursue a course of mental training that would prepare them for the serious work of life, but as it would appear that the necessary exercise and discipline to adapt the football player for the "slugging" that is an accompaniment of the game (and makes it so interesting to the thousands who attend the matches), occupies the greater part of the player's time, they must neglect the training of their minds for the sake of their muscles.

We must confess surprise that old institutions like Yale, Harvard, Princeton, etc., tolerate this kind of thing. Certainly true honor is not reflected by athletic contests that involve as football does, permanent damage to the participants, and even loss of life. Further, there are the side associations of gambling and rowdy conduct that are usually a matter of comment by the press reporter on the occasion of a "great" game. The immature and over-excited college boys and their friends are found giving way to betting and to excesses—of drinking, and rough mirth—to the disgust of quiet, refined people. The ordinary life of a young man in any active sphere that may open to him involves quite enough of effort and strength against influences that are morally vitiating, so that practices associated with his school and college career that relax moral fibre are contrary to the principles of true education. College authorities cannot be blind to the disgraceful doings that have become so common, and if they do not soon take some decided steps toward correcting the flagrant abuses that now seriously mar student athletics, the standing of institutions we have been accustomed to venerate will be impaired for scholarship and dignity.

THE MORAL INFLUENCE OF PLACE.

ONE of the chief features of that education which has most to do with the development of brain and mind is the house and home in which a child lives. Next to the influence of parentage this particular of environment may be said to wield the greatest influence upon the moral nature. We have been discussing the necessity of an education, directed with special reference to the training of the higher sentiments, and have indicated with some definiteness, we trust, the method that should be pursued in such training, that it may be normal, *i. e.*, in accordance with the organic constitution, and so productive of that poise and harmony of character that are fundamental to stable manhood.

The purpose of the writer in urging his views thus far upon the reader's consideration is to persuade him that moral education should be as much a matter of systematic pursuance as intellectual or physical training, and that because of its neglect society is responsible for the corrupt and vicious practices that abound in all walks of life.

We have stated at some time that the inculcation of good habits with reference to personal hygiene and one's immediate environment should be regarded as fundamental, since the order or disorder, the thrift or squalor of the home reflect a moral quality that becomes absorbed by the

child nature, and tinctures its after expression.

Life whether physical or mental is based upon food, air, warmth, shelter, and its quality has a certain and positive relation to the character of the food eaten, the air breathed, the shelter possessed. These factors of life's basis can not be put out of view in any rational consideration of moral development, so that it is essential for us to take a realizing look at the social and domestic condition of the individual from sanitary and hygienic points of view.

The vicious and criminal classes are found congregated in districts of town or city that are more closely populated than other parts, where poorly built and more or less decayed tenements hem in ill-ventilated and dirty courts, and border upon streets much neglected by the hoe and broom of the cleaning brigade. The sanitary character of the apartments in these tenements partakes of the condition of alleys, courts and streets. Generally indifference to soap and water is conspicuous in the color of their furnishings as well as in the complexion and dress of their occupants.

Much has been done by organized charity toward improving the condition of the poor, but the results so far have been and are individual rather than general, and must be so until the effort becomes a matter of state and municipal policy. The sympathies of the humane and church missions have found an ample field for charitable and reformatory work in slum regions, and many destitute families have been relieved, many sick, unfortunate and vice-enthralled men and women have been helped to recover health or respectability. But charity appears to reach few persons in the great multitude, and its work seems to be overbalanced by a steady increase of poverty and vice, in great metropolitan centres especially.

At the present time owing to the great influx of semi-civilized foreigners, who largely represent the worst phases of European and Asiatic society, our tenement house population breathes an atmosphere more turbid than ever with moral poisons. To the practices and abuses that are legalized or tolerated here by convention, the debased foreigner contributes race habits that are even more destructive of moral integrity. Occasionally an incident brings to light in a striking fashion the depravity of the sanitary relations amid which the poor may live. In August last two children fell from a fourth story window of a tenement in West 61st street, New York, and were killed. The *New York Herald*, in an account of the occurrence, stated that "to get at the bodies of her children, the frantic mother had to go through the cellar of the house. There she waded through indescribable filth almost knee deep to where her children lay when the foul odors overcame her and she fainted." The quarter referred to is comparatively new, and the buildings, so far as their street appearance is concerned, of neat design.

Is it comprehended by the very people who promote the charities and missions how far the place, the overcrowded houses and their squalid conditions go toward depraving their occupants? We opine not. It is easy to think that for one who is ill it

would be proper to secure his removal to a house where the atmosphere does not smell so disagreeably and the children are not so numerous or so noisy. It is as easy to think that the man or woman who is penniless should be helped to employment that will supply the necessary earnings for subsistence. Having done such laudable things as these the kind visitor may urge also the importance of obedience to Christian precepts, and attendance upon some chapel services. Beyond this the average missionary is not likely to go, because the idea of doing more, except in very rare cases, is impracticable.

A German writer has properly said that the bearing of unwholesome dwellings on vice and crime is fully as important as their bearing on public health. The hygienist is able to trace the spread of epidemics to the foul state of the dwellings of the lower classes, and so, too, the student of criminology can trace the moral degeneration that may characterize a community to the same fertile soil. Our American slum districts may not have descended to quite the level of the hotbeds of vice that exist in the poor districts of the larger European cities, but a little personal inspection will satisfy any one disposed to look into this matter that they are bad enough.

There the lowest types of humanity are mingled, the brutish slop from Europe, with degraded, ignorant, destitute and careless native-born. Often on one floor half a dozen races will be crowded together. The criminal, the vicious, the innocent, the shameless, of both sexes, young and old, may be found herded in one room. Naturally amid such associations, the instincts of truth, decency and honor, have little chance for action; they are smothered in the germ. The child born or bred therein receives so early impressions of falsehood, deceit and impurity, that he or she grows up with faculties depraved, having no clear knowledge of what is true and good in conduct and language.

The influence of such surroundings is even more perverting upon the girls who live in them than upon the boys, for the latter have many opportunities to seek other scenes during the day. With their companions they wander about, and in the clean, well-built neighborhoods learn something of a phase of life that is strongly contrasted with that in the grim, noisome alleys they call home. The girls, required to serve the wants or caprices of parent or other relative, must stay in the noisome house, or if they go out upon the street, must remain within call.

In the spirit of the oft-quoted proverb, we can scarcely help associating cleanness and neatness with uprightness and purity, while disorder and dirtiness as naturally suggest intellectual defect and moral turpitude. The self-respecting man is attentive to his personal state. He would appear becomingly, and so gives scrupulous attention to toilette and dress every day. The careless, slovenly man or woman always impresses the thoughtful as wanting in refinement and in that pride of character that is fundamental to usefulness and influence. The children who are taught to despise untidiness, and to practice the art of order in their dress and habits, can be led with

comparative ease to understand the moral proprieties, and to apply them in their conduct and life.

JOSEPH COOK AND PHRENOLOGY.

APPRECIATING the fact that the Rev. Joseph Cook has for many years been interested in the study of human nature from the phrenological point of view, we asked him, when in our office a short time ago, for his opinion of the value of phrenology, and received a reply which we are certain will not only interest our readers, but will prove of benefit in the promulgation of the great truth it is our business to teach.

One reason the eminent men of the day do not more frequently express themselves in favor of phrenology is because the pressure of duties in their own sphere of labor prevents them from giving sufficient attention to the details or technique of the subject to enable them to speak with confidence. They often believe in its principles, and would avow their conviction if they felt that they could do it without being understood to endorse certain false interpretations of the doctrine which are sometimes made by ill-informed or over-zealous persons. Thus they remain silent. Phrenology, like the words democracy, catholicism, socialism, liberalism, or religion, often suggests different ideas to different persons, and it is to be regretted that the world is yet too young to grasp its full meaning and importance.

It is but natural to expect the distinguished public teachers of religion and morals to decide as to the merits of a new doctrine in mental philosophy, and from the nature of their studies they certainly ought to do so.

The opinion of Mr. Cook is valuable in that it gives a more comprehensive view of the subject than is ordinarily held or uttered, and we are especially glad that he appreciates the dignity of the science. The letter is as follows:

Editor PHRENOLOGICAL JOURNAL:

Man has no study of more interest than man.

Phrenology is or ought to be the summation of seven sciences:

Physiology,
Hygiene,
Physiognomy,
Craniology,
Heredity,
Ethics,
Anthropology.

Any real expert in phrenological research has made a profound study of all these sciences and walks in the combined light of them all.

They are the Pleiades of the mental mariner who sails in search of a correct knowledge of man.

Without making myself responsible for the accuracy of every detail in the phrenological chart, I yet have a profound reverence for the guidance of any expert who has taken instruction through many years from these seven stars.

Next after the habitual and unguarded expression of the eyes and of the tones of the voice, the most revelatory signs of character seem to me to be gesture, physiognomy, physiology as a whole, temperament and cranial contour. The wise observer estimates a man not by his head merely, but by his head and body together; and not merely by the quantity of both, important as this is, but by their quality and symmetry as well. He judges the brain not by its protuberances, but by its diameters, contour and texture.

Choosing a foreman or a clerk, guiding the education of children,

settling my judgment of men in public or private life, estimating a wife or a husband and their fitness for each other, or endeavoring to understand myself and to select the right occupation, there is no advice of which I oftener feel the need than that of a thoroughly able, scientific, experienced and Christian phrenologist. It would be a great felicity to me, for example, if I could have such a veteran student of human nature as Professor Nelson Sizer, of New York, as a constant companion in study and travel, at home and abroad.

JOSEPH COOK.

BOSTON, Oct. 26, 1893.

PROOFS OF PHRENOLOGY.

THERE are many persons of extensive learning who continually refuse to acknowledge the value of Gall's method of determining the functions of the brain, and who imagine that he and his successors confined themselves exclusively to a single means of demonstration. The strictly Gallian method, viz., the observance of concomitant cranial forms and specific mental manifestations, is in fact as thoroughly scientific as the nature of the subject demands, but, unfortunately, some people demand more than the rules of logic. To answer the needs of the very skeptical and exacting class, it is well to remind them that the paucity of evidence of the Gallian localization of which they complain, exists only in their own imagination.

The phrenological brain centres have been demonstrated by a great variety of methods besides the one to which we are chiefly indebted, and the doubting Thomases might thrust their hands into the brain, so to speak, if they would, and be convinced of all we assert. As an instance of the most unanswerable kind of proof, we wish to call attention to the account of George Combe's experiments with the daughter of Prof. Mapes, related by Mrs. Wells in this number of the JOURNAL. In this case Mr. Combe actually *saw and felt* the action of special convolutions of the brain during the unmistakable activity of the mental faculties which, according to the phrenological authorities, are related to those particular cerebral parts.

The experiments in this case were repeated so often, and conducted in such a manner, and by such a painstaking and scientific man, that no one who is not wilfully incredulous, can fail to admit the conclusive nature of the evidence. We have only to add that this is merely one instance of many of similar force and value with which the literature of phrenology is enriched.

PROGRESS OF PHRENOLOGY.

NEARLY all great reformatory movements are characterized by alternating periods of activity and rest. Sunshine and clouds find their way into all domains. Fifty years ago a wave of interest in Phrenology swept over this country, but it came like a shower of rain upon the parched earth. It was absorbed, and left but few marks upon the surface. But now the indications point to a new awakening upon the subject, which will be based upon a rocky stratum of widely diffused knowledge, instead of the shifting sands of curiosity and speculation, and hence will prove enduring.

Our Mentorial Bureau.

To Our Correspondents.

QUESTIONS OF "GENERAL INTEREST" ONLY WILL *be answered in this department. But one question at a time, and that clearly stated, must be propounded, if correspondents shall expect us to give them the benefit of an early consideration.*

ALWAYS *write your full name and address plainly. If you use a pseudonym or initials, write your full name and address also. Some correspondents forget to sign their names.*

WE CAN NOT UNDERTAKE TO RETURN UNAVAILABLE *contributions unless the necessary postage is provided by the writers.* IN ALL CASES, *persons who communicate with us through the post-office should if they expect a reply, inclose the return postage, or what is better, a prepaid envelope, with their full address. Personal and private matters addressed directly to the Editor will receive his early attention.*

SPECIAL.—It is proposed by the editors to offer a question in each month of the present year for the consideration of the readers of the PHRENOLOGICAL.

Those who are inclined to answer the question are requested to do so in a brief, direct style, embodying the conclusions of personal observation and thought in a paragraph or two. If the question may be answered in the affirmative or negative, the writer should follow his Yes or No with a concise statement of the reason for such a position.

From the correspondence received on the topic the editors hope to fill a space in the magazine that will prove interesting to the readers generally.

Question—What produces the sentiment of gratitude?

Correspondents will please to send their replies promptly. All should be in the hands of the editors by the 16th of the current month.

FACILITY.—F. J. K.—The chart of the head given in Desbarolles is interesting. While we may say that in some respects the author stands almost by himself in regard to certain views in organic function, there are elements of truth in what he says. Assigning a centre or organ to "facility" of manual performance, shows an insight that should command attention because it anticipates in a singular way the discoveries of the physiologists with respect to the motor centres. The situation given it, bordering on Constructiveness, is significant. To be sure the motor centres in the scheme published by Ferrier and others show areas for the hand situated higher up in the lateral convolutions, but the relation is nevertheless maintained between the constructive sense as an ideational property on one hand and its mechanical correlative on the other. We do not note any disposition on the part of Desbarolles to claim originality for his localization, so that we infer the chart represented was found in books that he had consulted, and of which he does not deem it worth while to give the authorship. The authorities whom he does name are very well known to the student of phrenological science, and they do not mention "facility."

DISCUSSIONS OF MIND ACTION—H. K. G.—Every number of the JOURNAL contains something in the line of analysis relating to the operation of the faculties. A great deal has been written upon their correlated functions, so that if you have access to a complete file of this magazine you can find in it all you would care to read, we opine, upon that topic. But much remains to be said, and he who takes up the topic must always find it a luxuriant field. Each mind has its phases of differential action, because of its variation of development in organ and faculty and in susceptibility to environing influences.

So many elements are to be taken into

consideration that an estimate, especially in the case of a person highly organized and well developed, is far from easy, and requires for precision the skill and experience of an examiner who has given years of patient study to the work.

How the Centres Are Associated.—M. T.—The organic centres are not isolated bits or areas of brain matter, as you seem to think, but intimately related to each other by nervous fibres. Cortex or convolutions and medullary substance are pervaded with these fibres, presenting an elaborate distribution. Several classes of these fibres are known, each having their function. One class, for instance, called *arcluate*, connect centres in one convolution with centres in another. Another class, called *transverse*, connect the hemispheres of the brain. Other groups of fibres bring the ganglionic centres at the base of the brain into communication with the convolutional areas. What we now know of the structure of the brain impresses us with admiration because of the wonderful provision shown in it for the operations of the mind. It shows, too, the importance of training and culture that secures activity of every part, so that there shall be an approximate harmony in the mental development. Psychologists are learning the facts of brain physiology, and being convinced that the common methods of teaching are faulty, and of consequence incompetent for the evolution of the natural powers of mind, because not formulated in accordance with the principles that govern in the constitution of the brain and nervous system.

Epilepsy and Brain Disease.—*Question.*—Is epilepsy due to a disease of the brain? J. H.

Answer.—In some instances the epileptic paroxysm may be due to some positive disease in the brain, but we are of the opinion that the great majority of cases are due to reflex causes, and, therefore, are evidence of functional disorder outside of the brain. Within a few years there has been not a little surgical experimentation on the brain for the purpose of curing, if possible, epilepsy, but the results have been far from encouraging. Dr. Keen, in a number of *Harper's Magazine* last year, gave some accounts of operations for this purpose, but seems to have reported failures mainly. In this country and Europe there have been between 140 and 160 attempts to relieve sufferers from fits, with a very small proportion of actual recoveries. We think that attention to the invalid's habits, an improved hygiene, and, perhaps, the employment of hypnotism, will accomplish much more than operations on the brain.

What They Say.

Communications are invited on any topic of interest; the writer's personal views and facts from his experience bearing on our subjects being preferred.

CHICAGO AND THE WORLD'S FAIR.

I am willing to give Chicago a great meed of praise for its remarkable progress and public spirit, but the vanity and boasting of its people have reached such an absurd point that its papers are forced to make foolish remarks to gratify them. On Manhattan day, for instance, when the display and the class of people were superior to any I had ever seen on the grounds, and when several eloquent and most courteous speeches had been made by eminent New Yorkers, congratulating Chicago on her success, the *Evening Mail* could talk about "Queer People from Manhattan" and omitting all mention of any fine points connected with the city's guests, would go into some unimportant details. The *Evening Post* says "Poor Old New York," and then went on to say that its people had become scared on seeing Chicago, Mayor Gilroy having become "pale with fright." Well, Chicago's dirty streets and Chicago smoke are a little frightful, without doubt, to a New Yorker,

The Columbian Fair was doubtless superior to anything of the kind heretofore seen, but when New York gets ready to give us a World's Fair, I trust some changes will be made.

1st. It is to be hoped that its buildings will not flame forth in glaring white, a color which Americans are criticised for using far too much. The great buildings

were supposed to be models of architecture, but all positive, flashing colors, at least in external decoration, are against the canons of taste and against the voice of nature as seen in her building materials, for even marble is gray rather than white, and as soon as it is used Old Father Time commences softening down its hues into less prominence.

2d. Nearly all of the great buildings were in the Grecian and Roman styles with vast pillars which sustained nothing and a predominance of tame horizontal lines. I would have had a portion at least of the buildings in the Gothic, the sublimest style of architecture in the world, with its heaven pointing arches, buttresses, spires and pinnacles, its unequaled strength and its system of ornamenting the useful or, as Pugin has it, of "beautifying utility."

3d. I would have systems of seats and cheap, convenient methods of getting from one part of the ground to another and even through all the windings of the greater buildings. As one feature I would have a round tower-shaped building, diminishing toward the top. This building should be as much as five hundred feet in diameter at the base and should have a spiral floorway winding around until at least a height of 600 feet was reached. I would have a railway on the strongest and safest plan, running along the whole distance. This would give a ride of several miles slowly enough to get a fine general view of the displays from every part of the world. The rise should be so gentle as hardly to be perceptible, and the views through the windows of all the upper stories embracing New York and its whole range of surrounding cities, with river, mountain and ocean, would be the most magnificent that the world contains. The whole ride, I think, should not cost over ten cents, and people should be allowed to get out when and where they wish for a closer survey of any department. Such a building would have much more room than the greatest one at Chicago, and the view of the whole vast display would be restful and inexpressibly delightful. The effect of this tower building when illuminated would be wonderful. The lack of sufficient conveyances through the grounds and the great buildings at Chicago, as well as the lack of resting places, was very trying and sometimes, as I learn, fatal in its effects, to elderly or delicate persons. The sail among the buildings there and around through the lagoon was delightful, but it lasted only a few minutes, and the charge of 50 cents seemed beyond reason.

4th. The arrangements for the public comfort and convenience should be much greater and at less charge than those at Chicago. I noticed that in several of the eating houses on the Fair grounds the price was double what it would be in establishments of the same grade in Chicago or New York. Let the people feel that they can gain a knowledge of the wonders of human skill without exhausting their pocket books or wearing themselves out by walking or standing the whole day through. E. D. BABBITT, LL.D., M.D.

PERSONAL.

THE death of Mrs. Elizabeth Oakes Smith, once well-known in American literature, has been announced. For many years Mrs. Smith was a contributor to the PHRENOLOGICAL JOURNAL. She was a very versatile lady of old New England stock; she exemplified her pride of birth and mental culture to the last. The editor had several letters from her when in her advanced age she lived in retirement in North Carolina. They abound in that sprightly, cheerful humor that was her support amid the bereavements and other sorrows of her later life. Mr. Seba Smith, her husband, was the famous "Major Jack Downing" of forty years ago.

THE celebrated long-distance walker, Edward Payson Weston, who is now fifty-four years old, started on the 18th of December for a walk to Albany. He was anxious to succeed, as he thought it would encourage the growing generation to see a man successfully undergo such great exertion who had lived on the simplest farinaceous diet and drank nothing but water.

Since writing the above we have learned that Mr. Weston reached Albany eleven hours ahead of time. This will certainly please all of our vegetarian readers.

PHRENOLOGICAL SOCIETY AND FIELD NOTES.

OUR PLAN.

WE propose to make reports of the work done by the Phrenological Societies, giving dates of meetings, topics for discussion, etc., when received in time for publication in advance; and to make notes of the work done by those in the field.

Where advance dates for lectures can be sent in time for publication, we shall be glad to announce them, and in this way enable our readers to attend the meetings and lectures where possible. In spite of the hard times which seriously affect phrenological work, lecturers report an active interest, and in some cases great enthusiasm. We earnestly recommend the organization of societies in every neighborhood. Very much good can be done in this way, and we are sure that those who take part will invariably find it pleasant and profitable.

THE CHICAGO PHRENOLOGICAL SOCIETY.—Please announce in the JOURNAL that the address of the secretary of the Chicago Phrenological Society will be hereafter, Miss Dora Carpenstein, 531 Oakdale avenue, Chicago, instead of 240 Sedgwick street, our former meeting place. We now meet at the homes of the members, hence it has been decided to have the new secretary's address published instead.

Our society is prospering and growing, and during the season we have had many visitors. A leading feature of our exercises has been the reading of papers by the members, and they have been received with marked appreciation.

At a recent meeting a paper by myself was on the "Study of Physiognomy." Later a gentleman had a paper on the "Study of the Aspiring Organs;" and at our last meeting we had our semi-annual election of officers, followed by a long talk "On the Temperaments," by Prof. Thorne.

All communications should be sent to our secretary. MISS C. DELANG,
Past Secretary.

WINNIPEG, MAN., Dec. 6, 1893.

Fowler, Wells & Co.

DEAR SIRS:—As you are aware, no doubt, Prof. G. Cozens, a gradnate of your Institute, has been lecturing and has also formed a phrenological class here, which has developed into the Winnipeg Phrenological Society. The first meeting was held Nov. 30th and the society put on a running basis. We are sure you will be interested in us, and any suggestions that you may give us will be gladly received.

Prof. Cozens has done a good work here, and he will be gladly remembered by the members of the class and many others who attended the lectures. Speaking personally, and from what I have heard others say, there is a feeling of exultation over the good we have individually received from studying the subject.

The officers of the society are: Donald Grant, Pres.; Jas. Shipton, Vice-Pres.; J. W. Payne, Sec.; Mrs. H. J. Bell, Treas.

Yours truly,
J. W. PAYNE.

THE COOPER PHRENOLOGICAL SOCIETY of East Texas Normal College was organized Sept. 15, 1893. It meets each Saturday at 3 o'clock, P. M. and discusses subjects pertaining to mental science, having debates, essays and comments by each member. We also have a class in Phrenology, which meets one hour each day, and is conducted by Prof. C. L. Hayles, who lectures on Phrenology, its uses, advantages, etc., etc. We have a small library of phrenological books, three skulls, two phrenological busts, a manikin, etc., for the use of the class.

Mr. W. L. North is Pres.; Mr. R. A. Long, Sec., and G. W. Smith, Treas.

This is one of the encouraging signs of the times, and it may not be long before every normal and commercial college will find it essential to success that the teaching of Phrenology be a part of the course of instruction.

THE ELGIN PHRENOLOGICAL SOCIETY, organized by Prof. S. F. DeVore, is in a flourishing condition. The severe state of the weather has interfered somewhat with the attendance, but the interest in the topics under discussion is unabated. At the last meeting Mr. J. H. Stickling delivered a fine address on mesmerism.

MRS. W. A. SMITH,
Secretary of the E P. S.

THE NEW YORK ASSOCIATION OF GRADUATES has been attracting unusual attention. At the November meeting the question of Organic Quality excited so much interest that an extra session was held in the middle of the month to continue the discussion. The topic for the December meeting was Health as Related to Moral and Intellectual Education and Character, and was presented by Dr. Drayton, the editor of the JOURNAL. A lively discussion followed, in which a large number of members and visitors took part. At the January meeting, to be held the second Monday evening in the month, the Vital Temperament is to be considered. At the February

meeting, held the first Monday evening in the month, the Motive, and in the March meeting the Mental Temperament will have attention.

THE BROOKLYN HUMAN NATURE CLUB is growing rapidly both in numbers and enthusiasm. Less than a year ago it was organized with five members. Now there are thirty-seven enrolled, and the attendance at the public lectures given under their auspices is large. Dr. Beall was the speaker for Dec. 22d, and Mr. Leist is to lecture Jan. 26th. The committee is arranging lectures for the spring course. They hope soon to be able to have two meetings each month. The club is organizing an evening class for the practical study of phrenology and physiognomy to be instructed by Mr. Albert Bausch. All who are interested in the study of character are invited to attend the public meetings which are held on the fourth Friday of each month at W. C. T. U. Hall, 454 Bedford avenue, Brooklyn. Tickets of admission may be obtained on application from Albert Bausch, 100 South First street, or the secretary, Miss J. R. Floyd, 214 Rodney street, Brooklyn.

THE WASHINGTON PHRENOLOGICAL SOCIETY is holding very successful meetings and awakening a good deal of local interest and talent.

THE CLEVELAND INSTITUTE OF PHRENOLOGY AND PSYCHOLOGY.—Dr. English, Dr. Mason, and Prof. King, all graduates of the American Institute of Phrenology, have associated themselves with others at Cleveland for a course of popular lectures and instruction in Physiology, Phrenology, Psychology, etc. The course laid out is a comprehensive one and includes lectures from the early part of December to the end of April.

THE ST. PAUL PHRENOLOGICAL SOCIETY. Prof. Morris has just given a number of lectures under the auspices of this Society which he organized a number of years ago.

FRANKLIN MCNALLY, class of '90, continues his office in Chicago, where he is working up a good demand for phrenological literature, and is meeting with success in professional work. He is also working on a new process of taking casts of the head, which promises to be very successful.

PEARLE BATTEE, class of '90, continues her work in Baltimore, and is still making friends for the cause and a good reputation for herself.

GEO. COZENS, class of '91, is in the northwest territory. He delivered successful courses of lectures at Winnipeg, where he established a flourishing phrenological society.

MRS. DR. T. S. ANDREWS, who has for many years been a successful lecturer, is working in Illinois, and doing much good in her professional work in the sale of books.

W. S. BELL, A. M., class of '93, made his first stop in Pittsburgh, where he delivered a number of successful lectures, and then moved on to the West.

V. P. ENGLISH, M. D., class of '86, is located in Cleveland, where he practices medicine and Phrenology, and gives frequent lectures, especially in connection with the University Extension Courses.

H. E. SWAIN, class of '70, who has worked in New England for many years most successfully, has visited points in Pennsylvania and New Jersey and is now back in New England again.

WM. WINDSOR, L.L.B., of Washington, continues the publication of the PHRENOLOGIST, and has an office for professional work.

IRA L. GUILFORD, class of '76, has been doing work in Maryland and Virginia, and his enthusiasm and earnestness never fail to attract attention to the subject.

J. B. HARRIS, class of '88, is working in Missouri, from which State he sends us frequent orders for books.

GEORGE MORRIS, class of '78, has been to the Pacific Coast for a season of rest, has visited St. Paul, and expects to lecture during the coming season in Iowa and adjoining States.

J. H. JACKSON, class of '93, has already entered the field and is doing very successful and acceptable work in Connecticut. Mr. Jackson's superior intelligence, energy and zeal for the cause will secure for him success wherever he presents the subject.

J. W. FOSTER, class of '93, expects to enter the field at the commencement of the year in Mississippi, where he will present the subject in popular and educational lines.

ALBERT BAUSCH, class of '87, is lecturing in New York and vicinity, accepting calls for churches and societies. His lectures are entertaining and instructive.

ALLEN HADDOCK continues the publication of *Human Nature* at San Francisco, and his last number shows commendable enterprise on his part, and the contents are well worthy of perusal. He is taking up other topics allied to the subject and of general interest. The periodical is now in its fourth year of publication and worthy of a large circulation.

F. A. FARISS, class of '85, writes from Iowa: "The prospect for winter work looks a little brighter now. My course is now southwesterly through Ottumwa, Iowa."

Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor the Editor with recent publications, especially those related in any way to mental and physiological science. We can usually supply any of those noticed.*

TEMPERANCE IN ALL NATIONS. Papers, addresses, essays, discussions and history of the World's Temperance Congress, held by the National Temperance Society, in Chicago, June, 1893. Edited by J. N. STEARN, in two volumes, royal octavo, cloth, $5.00. Published by the National Temperance Society and Publishing House, New York.

The first of these two volumes is historical, contains 538 pages, giving the history of twenty-five great national organizations and societies in North America, nearly thirty in Great Britain and Ireland, and others in nearly every country, and the reports of nearly forty American Consuls to the following four questions, sent them by the National Temperance Society through the State Department of Washington: 1st. The statistics as to the quantity and kinds of intoxicating liquors produced. 2d. As to the methods of dealing with the manufacture and sale of intoxicating liquors. 3d. As to intemperance as related to poverty, immorality and crimes. 4th. As to efforts that are being made to discourage the use, manufacture and sale of intoxicants.

Volume second contains the proceedings of the World's Temperance Congress, giving the papers and addresses by a large number, indeed it might be said all, of the leading writers and speakers on the subject in the world, including every conceivable phase of the subject, and every possible method of dealing with it in this and all other countries.

It may readily be inferred that this volume must prove of great interest and importance to all who are in any way dealing with the temperance question.

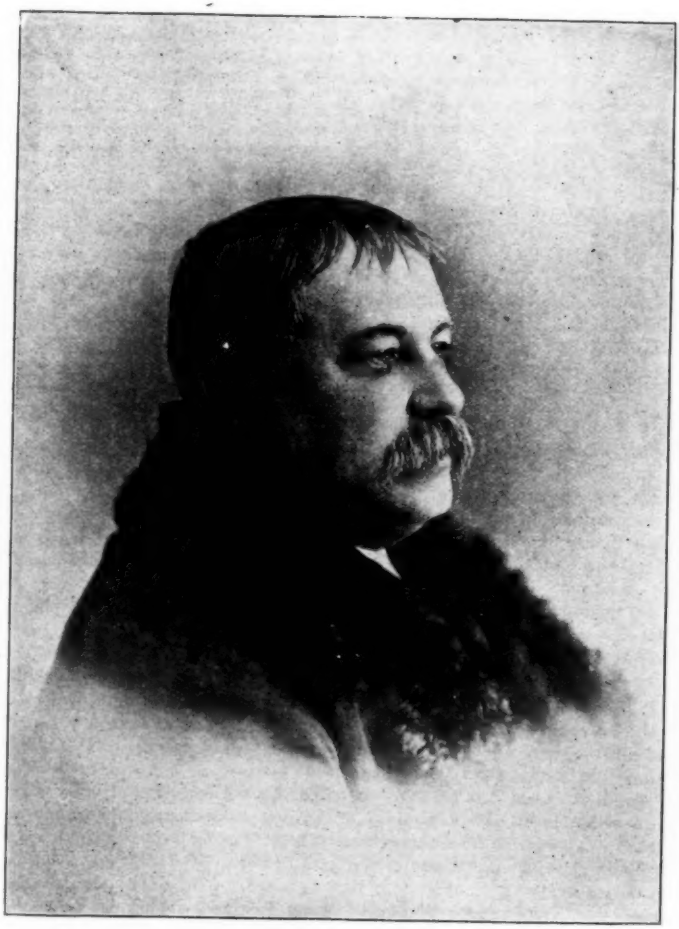
We shall be pleased to receive and fill orders for the above from any of our subscribers who may wish them.

OUTLINES OF PRACTICAL HYGIENE—ADAPTED TO AMERICAN CONDITIONS. By C. GILMAN CURRIER, M. D., Fellow of the New York Academy of Medicine; Visiting Physician to New York City Hospitals, etc. 8vo, cloth, pp. 468. Published by E. B. Treat, New York.

A compact, well arranged volume, that presents to the lay and professional public a fair review of the subject of its title, bringing into notice the results of later investigation into the causes of disease, endemic and epidemic, and describing the means of prevention. The field covered by Dr. Currier is seen from a glance at the chapter titles:

Soil — Climate — Protection of Body—Clothing—Bathing—Personal Hygiene—Physical Exercises—Schools—Occupations—Their Influence on Health—Heating—Lighting—Buildings—Ventilation—Diet—Foods—Their Preparation and Adaptation—Water and Water Supplies—Fluid Waste—Sewers—Drainage—Plumbing—Garbage and Other Refuse—Disposal of the Dead—Human Excreta, Disposal of—Bacteria and Diseases—Infectious Diseases—Disinfection — Restriction — Communicable Diseases.

Society is rapidly growing intelligent with respect to the very positive relations of disease and sickness to conditions of environment and habits of living—so that a book involving principles such as this discusses is not unwelcome. Teaching as it does how not to be sick, it is in the van of that wave of progress that carries the banner of prophylaxis, and insists that prevention is not only better than cure, but is the true mission of the physician. Dr. Currier has produced a meritorious work. On some points he speaks a little magisterially. Although the highest authority may be cited on the other side, yet one will not be the loser in following the suggestions generally of the book. We cordially recommend it.



WILLIAM DEAN HOWELLS.

See page 62.